The Iron A

A Review of the Hardware, Iron and Metal Trades.

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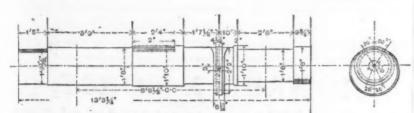
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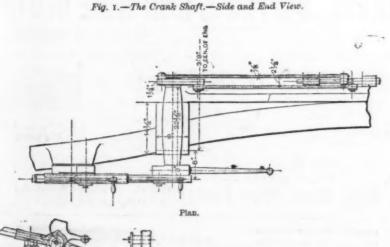
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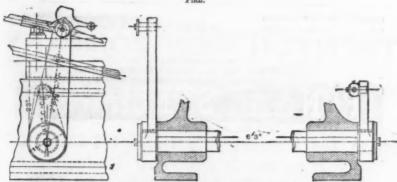
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While English blacksmiths greatly excel
their fellow-craftsmen on this side of the
water, it is universally conceded that American
founders and machinists are much more
skilled than their English cousins. The art
of casting has been brought to such a degree
of perfection in this country that cast from is
successfully used in places where the English
means of dies, so as to be ready to receive
the inner ends of the arms or spokes. These
are in turn welded in position, and after all
are placed a final heat is given to the parts
in order to give the whole a finish under a
drop in which are placed suitable dies. The
rim of the wheel is of wrought iron, and is
formed of the proper size and welded. A
heat is shen taken upon it, and also upon the
onds of the several arms or spokes, when the
two parts are brought to such a degree
of perfection in this country that cast from is
successfully used in places where the English
means of dies, so as to be ready to receive
the inner ends of the arms or spokes. These
are in turn welded in position, and after all
are placed a final heat is given to the parts
in order to give the whole a finish under a
disk has a projection 3 feet in diameter, the
degree of which forms a semicircular groove,
with a lip projecting a little, as is shown in
the section Fig. 4. Upon this lip the
call sk has a projection 3 feet in diameter, the
degree of which forms as semicircular groove,
with allip projecting a little, as is shown in
the section Fig. 4. Upon this lip the
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degree of which forms as semicircular groove,
with a lip projecting a little, as is shown in
the section Fig. 4. Upon this lip
the serial very lip the crank-pin. On its inside face the crank
disk has a projection 3 feet in diameter, the
degree of which forms as semicircular groove,
with a lip projecting a little, as is shown in
the section Fig. 4. Upon this lip
the serial very lip the crank-pin lap or the connection of the connection of the con







Section Through the Rock Shaft. Fig. 2.—The Valve Gear.

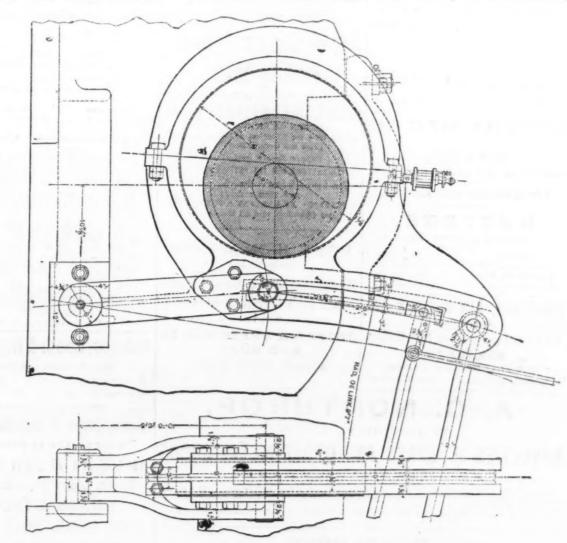


Fig. 5 .- Link and Eccentric Strap and Suspending Link .- Front and Side Views,

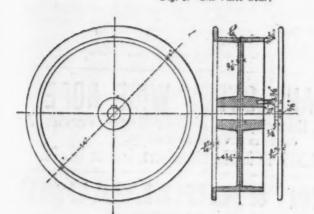


Fig. 3.—Governor Pulley.

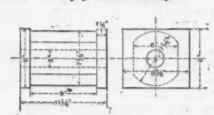


Fig. 7 .- Cross-Head Pin.

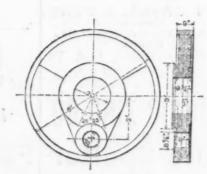
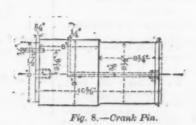


Fig. 4.-Side View and Section of Disk.



THE PORTER-ALLEN ENGINE

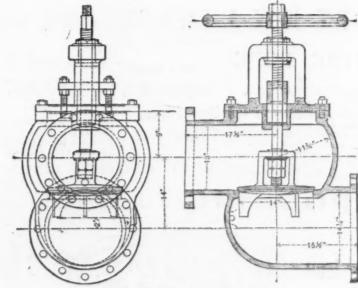


Fig. 6.-Elevation and Section of Stop Valce.

a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of perfection, since they posses, and a high degree of the perfection of the perfect of an or air-furnee cast iron, which is preferred by some of the best managers. The entire centric is a part of the shaft, a feature that presents many advantages, not the least of which is the impossibility of altering its possible in measures in section 7% by 6 inches and the war upon the draw of the high subject, states that the following. The material for the shaft is wrought iron, or air-furnee cast iron, which is preferred by some of the best managers. The entire possible in the bearings, giving an enormous bearing. The material for the shaft is wrought iron, or air-furnee cast iron, which is a part of the shaft, a feature that presents many advantages, not the least of which is the impossibility of altering its possible in measures in section 7% by 6 inches and the war upon in the draw of the war upon the draw of the heart of all of the war upon the draw of the heart of an inch is allowed for the purpose. The entire is considered necessary. The guides and involved over, as shown in the draw in the draw of the heart of an inch is allowed for the purpose.

lamentable deficiency in blacksmithing, which art the English have been obliged to carry to a high degree of perfection, since they possess to convenient substitute for wrought iron. The Blacksmith and Wheelwright, in dwelling on this subject, states that the following in position the surplus iron in the draw
the purpose are, of course, previded, and the purpose are, of course, previded, and the disk 3 inches long and 20 inches in diameter at the journals. They therefore accomplish very readily what most American blacksmith would fear to undertake. After the rim has been thus in the bearings, giving an enormous bearing. The guides and riveted over all. The pin is forced into joined in position the surplus iron in the draw
The Blacksmith and Wheelwright, in dwell
ing on this subject, states that the following iron in the draw
The purpose are, of course, previded, and the given in Fig. 1, is 13 feet 3½ inches long and 20 inches in diameter at the journals. The pin is force and the web of the disk 3 inches in diameter at the journals. The pin is considered necessary. The guides and riveted over all. The pin is forced into joined in position the surplus iron, in the draw
The purpose are, of course, previded, and the given in Fig. 1, is 13 feet 3½ inches long and 20 inches in diameter at the journals. They therefore accomplish term the bearing surfaces are so large and 20 inches and the web of the disk 3 inches and 20 inches face and the web of the disk 3 inches and 20 inches face and the web of the disk 3 inches and 20 inches face and the web of the disk 3 inches and 20 inches face and the web of the disk 3 inches and 20 inches an

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balls, however, is not depended upon to makes it easy to adjust the speed of the gov-bring them back, but a heavy revolving ernor by altering the position of the ball weight is placed upon the standard between upon the lever. The main weight rises and

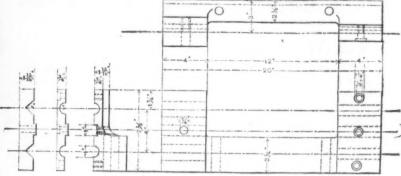


Fig. 10. -Guide for Valre Stems

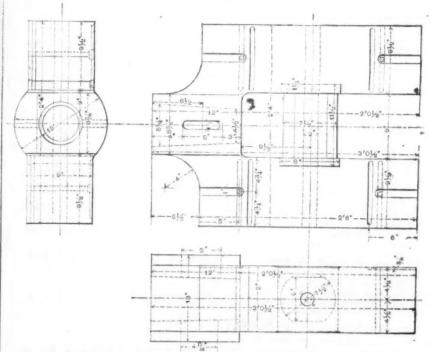


Fig. 11.-The Cross Head,-Plan. End and Top View.

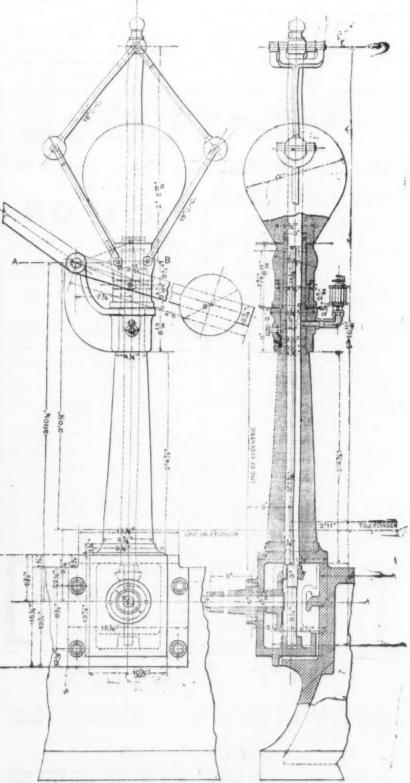


Fig. 13.-Elevation and Section of Governor

them, and to this they are pivoted. An arm, falls between extreme positions about 6 valve realities enable us to quote the Trade lower prices than any other manufactory. All goods delivered east of the Mississippi. Will sell % bits or more, assorted with 6.8 and 10 inch.

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all parts of an engine when running at a very high rate of speed are peculiar. Though it is apparently a simple matter to keep all the parts of a high-speed engine perfectly lubricated, those who have undertaken the task will acknowledge that it is no easy one. The principle adopted was to furnish to every moving part the proper quantity of oil at each stroke. Thus the crosshead is provided with a wiper which at every forward stroke rises up and takes a drop of forward stroke rises up and takes a drop of oil from a wick in the oil-cup provided for the purpose. This oil then flows through proper channels into the bearings. The supply is, of course, constant and regular. In the same manner, on the crank-pin, oil is distributed with equal regularity to the pin. Upon the back of the pin a wiper is placed

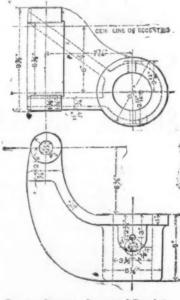


Fig. 9 .- Governor Lever and Bracket.

which takes a drop of oil from an elevated oil-cup each time it passes its upper position. The centrifugal force then carries it outward and it passes into the body of the crank-pin and so outward to the bearing. Fig. 3 shows the position of the oil-hole in the pin. In the larger parises the main bearings are furn larger engines the main bearings are furnished with grease cups instead of the ordinary lubricators. The centrifugal force is nary lubricators. The centrifugal force is made to distribute the oil to the bearings of the governor itself. In Fig. 13 the section shows how this is done. The oil-cup feeds the oil upon the spindle, in which there are a number of grooves se placed that they throw the oil upward upon the bearing surfaces. It is also carried downward to the gearing in the base. The case is arranged in such a way that the drip is caught and not allowed to run down upon the bed-plate. not allowed to run down upon the bed-plate. Complete and continuous lubrication at a point as important as this is of the greatest

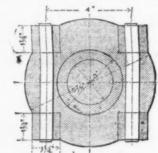


Fig. 12. - Section on Line A. B.

value, and upon it to no small degree depends the successful working of the engine. The boxes are all well scored to carry the oil over

all parts of the bearings.

The views of the link and eccentric in The views of the link and eccentric in Fig. 5, as well as the plans and top views of the bed and valve motion, show some interesting features in regard to the working out of the details. We have not room within the limits of a newspaper article to speak at length of all the interesting details of these engines, but the drawings give a sufficiently clear idea of most of them to those who can days to a little time to studying them. devote a little time to studying them

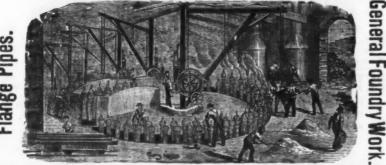
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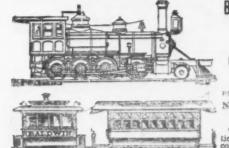
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Notes on Siemens' Furnace Patent.

The following correspondence has been sent us for publication:

Pittsburgh, February 11, 1881. - & Co. - DEAR SIRS : I have. at your request, examined the following Letters Patent granted to the Messrs. Sie-

of April 3, 1877; Patent to C. W. & F. Siemens, No. 190,015,

near, it is hardly worth while to consider the question whether it has not already expired in view of previous British patents, viz.: No. 2861, of 1856, to Frederic Sie-mens; No. 1320, of 1857, to C. W. Siemens; and especially No. 167, of 1861, to C. W. & F. Siemens. The first of these British & F. Siemens. The first of these British patents covers the principle of the regenerative furnace, both as applied to a furnace using solid fuel, and to a furnace in which gaseous fuel only is used; the second describes the application of the regenerators to a puddling furnace, and the third describes its application to furnaces for iron, class potters. As with a gas producer. scribes its application to furnaces for iron, glass, pottery, &c., with a gas producer. If, as we may suppose, Frederic Siemens alone was the inventor of the apparatus described in his British patent, No. 2861, of 1856, it is a matter of great doubt whether the first and fourth claims of the United States patent Reissue No. 3265, are not invalid, as being a patent to two persons for what was the invention of one of them. It is, however, unnecessary to discuss this question, in ever, unnecessary to discuss this question, in view of the near approach of the expiration of that patent.

of that patent.

The next patent is No. 42,717, of May 10, 1864, to C. W. & F. Siemens, for gas producers. The invention claimed in this patent is fully described in British patent, No. 167, of 1861, to same parties. I am inclined to the opinion that this patent expired on 22d January, 1878, or 17 years after the date of the British patent referred to. This, however, depends upon the construction to the Patent Act of March 2d, 1861. In a recent decision of Judge Blatchford, in which he goes into an elaborate 1861. In a recent decision of Judge Blatchford, in which he goes into an elaborate examination of the law, and criticism of the authorities, he holds that where a prior foreign patent has been granted to the United States patentee, under that act of Congress, the United States patent expires in 17 years from the date on which the foreign patent commenced to operate in favor of the patentee. This view, however, conflicts with what was previously supposed to be the law, by the profession, but, as I stated, is probably the better opinion. In any event this patent (which covers only the gas producers) will have expired on the 10th

any event this patent (which covers only the gas producers) will have expired on the 10th of May next.

Patents No. 89,441, of April 27, 1869, and 95,843, of October 12, 1869, may be examined together; the drawings are the same in both. In the former of these patents the claims are chiefly on the process of treating metal in the bath with oxide of lead, nitrate of soda, &c., and the use of hoppers in connection with a series of regenerators. The latter patent is for a process of making steel.

displayed by iron and steel when allied with air flues rising nearly to the roof and opendisplayed by iron and steel when allied with manganese, silicon or phosphorus; (3) double-flanged rails may, without inconvenience, be made of harder steel than single flanged rails; (4) that railway companies should agree among themselves to adopt a certain number of patterns in common, and that, if they still have any doubts as to the truth of the above conclusions, they should appoint a committee of engineers and chemists to study carefully the various causes that influence the duration propose to adopt.

idea of the exact construction which you propose to adopt.

Patents No. 189,273, of April 3, 1877, and No. 190,915, of May 15, 1877, were applied for on the same day, and the drawings are the same in both. I may therefore consider them together, the earlier patent being for a process, and the later one for the apparatus. The process claimed is in brief for converting iron into steel by tapping the melted cast iron from the refining furnace into a ladle lined with refractory material and containing solid ferromanganmaterial and containing solid ferromangan-ese. As I understand, you do not propose to use this process in your new furnace. The Letters Patent granted to the Messrs. Siemens, viz.:

Patent to C. W. & F. Siemens, Reissue No. 3265, of patent No. 41,788, of March I, 1864;

Patent to C. W. & F. Siemens, No. 42,717, of May 10, 1864;

Patent to C. W. & F. Siemens, No. 89,441, of April 27, 1860;

Patent to C. W. & F. Siemens, No. 93,578, of August 17, 1869, Process;

Patent to C. W. & F. Siemens, No. 93,578, Patent to C. W. & F. Siemens, No. 93,578, and it is Patent to C. W. & F. Siemens, No. 93,578, and it is patent and make such a claim, although it is possible that one of the series of air flues arranged behind the gas flues, each air flue overlapping the gas flue in front thereof. I suppose this to mean each air flue overlapping on both sides, the gas flue which is in front of it; and from a Patent to C. W. & F. Siemens, No. 190,015, of May 15, 1877, with a view to ascertaining whether anything claimed therein will prevent your constructing a regenerative steel furnace described to me by Mr. Ryder. I had hoped to receive a plan of the proposed furnace before giving you a written opinion, but not having done so, I must trust to my understanding of the verbal description I received, since you desired me to communicate my views before the beginning of next week. The patents in question all refer to what is known as the Siemens Regenerative Furnace.

The first named patent, Reissue No. 3265, will expire, on any construction of the law, on 1st of March next, and as this date is so on 1st of March next, and as this date is so behind the gas flues, to rise above them, and the tap of each air flue shall be wider behind the gas flues, to rise above them, and that the top of each air flue shall be wider than the gas flue in front of it. All these features must combine in order to constitute an infringement. I am not quite clear as to an infringement. I am not quite clear as to the construction you propose to adopt, so far as affected by this second claim of Patent No. 190,915, but, if I understand Mr. Ryder correctly, your air flues are not to be either behind the corresponding gas flues, or wider at top than they are. In this case you would not infringe. Respectfully,

W. BAKEWELL.

Washington, D. C., March 30, 1883.
Letters Patent No. 89,441 were granted C. W. Siemens, April 27, 1869. This patent was afterward reissued in three divisions, A B and C. Our opinion is desired with reference to the validity of Reissue, Division B, No. 7863, granted to C. W. Siemens, August 28, 1877. The original patent contains an elaborate description of an improved process of making steel, and different constructions 28, 1877. The original patent contains an elaborate description of an improved process of making steel, and different constructions of furnaces for carrying the process into effect. In this patent the furnace which is considered to be the main or preferred form of construction, is provided with a vertical hopper having an inclosing air-heating chamber. Figs. 15, 16, 17, 18 and 19 of the drawings are said to represent a modification. The only point of difference specified in the patent is that, in the modification, sloping hoppers are substituted for the vertical hoppers. The original patent contains seven claims, the first and second of which are process claims. The third claim covers the tubular hoppers, the surrounding heating chambers and the furnace, combined and arranged to operate substantially as shown. The fourth claim covers gas supply tubes arranged within the hoppers. The fifth claim covers construction and arrangement of pipes for supplying gas to the hoppers. The sixth claim covers the furnace, tubular hoppers and tion and arrangements. The sixth claim covers gas to the hoppers. The sixth claim covers the combination of the system of heat generators, the furnace, tubular hoppers and the air-heating chambers surrounding the hoppers. The seventh claim covers the combination of the hoppers, the heating chambers, regenerators constructed and chambers, regenerators constructed and chambers.

nection with a series of regenerators. The latter patent is for a process of making steel by reducing ore to sponge in hoppers, and plunging the sponge without contact with the air into a bath of melted pig metal. These two patents do not affect the present question, excepting that the drawings appear to represent a series of gas and air flues from the regenerators, located side by side, with the air flues opening into the furnace above the gas flues. But there is no description nor claims referring to this peculiarity part of his invention or improvement. No with the air flues opening into the furnace above the gas flues. But there is no description nor claims referring to this peculiarity of construction.

Fatent No. 113,684, of April 11, 1871, is for a process and apparatus for the production of cast steel from ore. The only claim affecting the regenerative furnace is the influence of a steel-melting furnace in such a manner that the vertical air ports rise nearly to the roof of the furnace, while the side walls of the flues are extended or correct rise or and the side walls of the flues are extended or corriage and Wagon Castingo constantly on hand for the trade.

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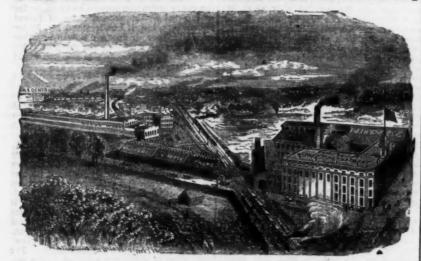
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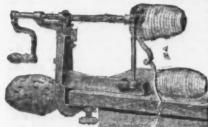
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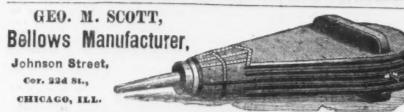


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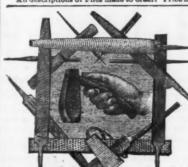


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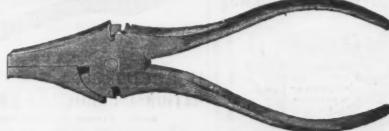


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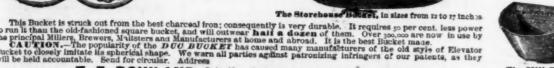


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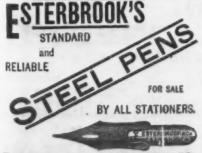
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advantages result from such a construction and arrangement of parts, or that the patentee considered that such feature constituted any portion of his invention. The fourth claim relates to the relative location of the gas and air flues and the gas regenerators, the claim covering said flues when located above the gas regenerator. In the original patent there is no hint or suggestion that any particular advantages occur from this arrangement of parts, or that such an arrangement of parts, or that such an arrangement of parts constituted the invention of the patentee. The sixth claim relates to the arrangement of the tier rods beneath the furnace bottom. This construction of parts is not even an attempt to onlarge the scope of these claims; but there are four new and distinct claims made to parts of the machine, to which no reference is made in the original patent as his invention. Indeed, a comparison of the two specifications precludes the idea of inadvertence, accident or mistake, since all but two of the claims of the original patent are reproduced in the reissue, and there is no pretense that this patent was inoperative or invalid as to anything therein claimed to be the patentee's advantages result from such a construction are full and complete, and his claims appear truction of parts is not even referred to in the original patent, and no statement is therein made that any such feature of con-struction is the invention of the patentee. The seventh claim relates to the combination of a ladle mounted on wheels with the re-

or a ladie mounted on wheels with the re-generative gas furnace.

From the foregoing it will be observed that the reissue patent in question is based on matter illustrated in the drawings of the original patent, but not described or claimed therein. Hence the reissue was not obtained therein. Hence the reissue was not obtained for the purpose of correcting the claims of the original and securing broader claims, but for the purpose of obtaining claims on features of construction nowhere claimed in the original patent, and not even described therein. This state of facts leads us to an examination of recent decisions of the Sunantine of the su examination of recent decisions of the Su-preme and Circuit Courts relating to reissue patents. In Swain Turbine and Manufacturing Co. vs. Ladd, 19, O. G., 62, suit was brought on a reissue patent granted twelve and one-half years subsequent to the date of the original patent. The original patent contained three claims, while the reissue embraced eleven different and broad and doubt, that it was not through any accident, contained three claims, while the reissue embraced eleven different and broad and sweeping claims. The Supreme Court considered the reissue in view of the limitations imposed on the claims of the original, and held that the broad claims embodied in the reissue were void. The practice of granting broad and expanded claims in a reissue was suprement with the court as will be considered by the Court as will be considered by the Court as will be considered by the Court as will be considered. severely criticised by the Court, as will be observed from the following language to be found in his decision: "It was never infound in his decision: "It was never intended to allow a patent to be enlarged, but to allow the correction of mistakes inadvertently committed, and the restriction of claims which had been improperly made or which had been made too broad—just the contrary of that which has come to be the practice. In a clear case of mistake (not error in judgment) the patent may undoubt-edly be enlarged, but that should be the exception, and not the rule, and their contrac-tion the rule. * * * The invention of a wheel was not claimed at all. A wheel was described, but it was a wheel made after a particular pattern or form, and adjusted to particular pattern or form, and adjusted to a particular apparatus for the reception and discharge of the water. * * * * Instead of correcting inadvertent mistakes in the specification which rendered the patent inoperative and void, the pretended descriptions are evidently intended to widen the scope of the patent and make it embrace more than it did at first. The missiake of the patents or his assignee seems

take of the patentee, or his assignee seems to have been in supposing that he was entitled to have inserted in a reissued patent is no safe or just rule but that which con-fines a reissued patent to the same invention

any combination by which the tub is attached to the standards, or the standards are held in place and prevented from spreading, although it is true that the drawings annexed to his patent show a machine completed in all these particulars. This patent was issued March 12, 1872. The defendants began building machines similar in general construction to complainant's machine, but avoiding the use of that portion of the machine covered by complainant's patent, in the fall of 1877. In July, 1879, complainant applied for a reissue in which he states his invention as before, but enlarges very greatly its scope.

** Four additional claims are made, none of which have any relation to the claims in the original patent. Now if it be true that the patentee may claim in his original patent was inoperative or invalid, by reason of a defective or insufficient specifications, but the contrary, his specifications.

this patent was inoperative or invalid as to anything therein claimed to be the patentee's invention. It appears to be a case where the patentee has materially enlarged the scope of his patent for the purpose of reaching ing those who are constructing machines after the same general design as his own. Upon the best consideration I have been able to give this matter, I have come to the conclusion that this reissue cannot be supported, and that as to those four claims it

had for the purpose of expanding and gen-eralizing the claim so as to make it embrace an invention not described and specified in

original patent was granted, were worded as follows:

First.—The above described process of making cast steel upon the open hearth of a furnace, such process being by effecting simultaneously the reduction of iron ores, in one or more heated hoppers and the solution of the reduced motal (without exposing it to the flame) in a bath of metal provided in the furnace, substantially as hereinbefore described.

scribed.

Second.—The mode of making cast steel upon the open hearth of a furnace, the same consisting in causing wrought iron, steel, or white cast iron to descend upon inclined planes, or through hoppers (where the metal becomes gradually heated) and into a fluid bath of cast iron, under the influence of very intense heat, the metal being dissolved in such bath and converted into cast steel,

in such bath and converted into cast steel, substantially as set forth.

Third,—I also claim the employment of a regenerating gas furnace with a bath of metal and one or more hoppers used and described during and by the process of making steel thereby, as explained.

The records show that he had other applications then pending, and that the application in question was held to disclose certain improvements in the process of making steel

or defective in the sense that would warrant the grant of a reissue as a corrective measis no safe or just rule but that which confines a reissued patent to the same invention which was described or indicated in the original."

See also the Powder Company vs. The Powder Works, (98, U. S., 126). In the case of Kells vs. McKenzie, 20, O. G., 1663. Suit was brought on a reissued patent for an improvement in brick machines. The Court, after discussing the recent decision of the Supreme Court on reissue, and particularly the decisions hereinbefore referred to, state as follows: "Bearing in mind now that the reissue must be for the same invention as the original patent, and that the fact that the patentee might have applied for and had inserted in his original patent all that he now claims is not conclusive evidence that his reissue is valid, let us examine the grant of a reissue as a corrective measure. The Chambers St.

Or defective in the sense that would warrant the grant of a reissue as a corrective measure. The chamber of a reissue as a corrective measure. The chamber of the grant of a reissue as a corrective measure the grant of a reissue as a corrective measure. The chamber of the grant of a reissue as a corrective measure. The chamber of the crisinal patent was not inoperative or defective to the extent of affording protection for the improvements shown, described and claimed therein. In reissue, Division A, No. 7862, the claims of the original patent, and that the fact that the original patent, and that the fact that the patentee might have applied for and had inserted in his original patent all that he now claims is not conclusive evidence that his reissue is valid, let us examine the patentee or defective to the extent of affording protection for the improvements shown, described and claimed therein. In reissue, Division A, No. 7862, the claims of the original patent. Hence Siemens, by obtaining his reissue, Division A, No. 7862, the claims of the original patent. Hence Siemens, by obtaining his reissue, Division A, No. 7862, the claims of the original patent. Hence Siemens, by obtaining his specifies his invention in the following pre-patent as embodying the invention of the specifies his invention in the following precise and unequivocal language. * * * * *
It will then be seen that this statement of his invention, as well as the eight claims made in the original patent, relate solely to that portion of the machine in front of the forward standard, at the point where the clay passes beyond the action of the screw, and is molded to pass through the dies. There is no intimation that he claims any novelty in the general construction of the machine, or of its tub or standards, or of any combination by which the tub is attached to the standards, or the standards are held in place and prevented from spreading, ered by the original patent, and that there

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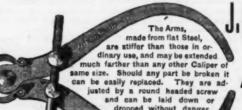
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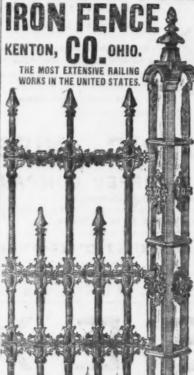
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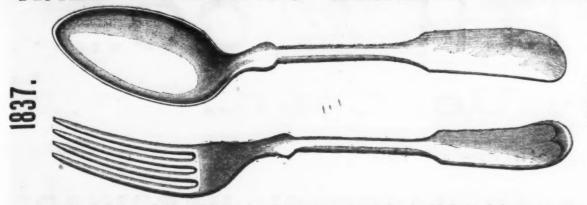
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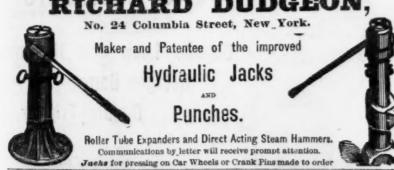
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Commissioner and Examiner of this, and upon a matter that was obvious on the first inspection of the patent. If a patentee who has no corrections to suggest in his specifica-tion, except to make his claims broader and nore comprehensive, uses due diligence in returning to the Patent Office, and says, 'I omitted this,' or 'my soliciter did not understand that,' his application may be entertained, and, on a proper showing corrections may be made; but it must be remembered that the claim of a specific device or combination and an omission to claim other, devices or combinations.

specific device or combination and an omission to claim other devices or combinations apparent on the face of the patent are in law a dedication to the public of that which is not claimed. It is a declaration that that which is not claimed is either not the patentee's invention, or if his, he dedicates it to the public. This legal effect of the patentee cannot be revoked unless the patentee surrenders it and proves that the specification was framed by real inadvertence, accition was framed by real inadvertence, accident or mistake, without any fraudulent or deceptive intention on his part, and this should be done with all due diligence and speed. Any unnecessary laches or delay in a matter thus apparent on the record affects the right to alter or reigness the prant for the right to alter or reissue the patent for such cause. If two years' enjoyment of an invention with the consent of and allowance of the inventor is evidence of abandonment and a bar to an application for a patent, a public disclaimer in the patent itself should be construed equally favorable to the public. Nothing but a clear mistake or inadvertence and a speedy application for its correction is admissable when it is sought merely to enlarge the claim. * * In such a case, even he who has rights and sleeps upon them instructors.

justly loses them. See also, James vs. Campbell (21, O. G. 27). On the strength of the decisions by the Supreme Court, referred to, Judges Butler and McKennan, of the Eastern District of Pennsylvanis, rendered a similar decision in

Pennsylvanis, rendered a similar decision in the case of Combined Patents Can Company vs. Lloyd, (21, O. G. 713). In this case the original patent was granted in 1864, and reissue obtained in 1877. The recent decisions relative to reissues are discussed at length. The Court states as follows: "We are thus brought to the inquiry before suggested. Was the patentee estopped by delay and acquiescence from claiming correction of his patent by means of the reissue obtained? Nearly thirteen years elapsed before his ap-Nearly thirteen years elapsed before his application was made. If the matter described in the additional claims were a part of the original invention (as has been conceded) and were omitted through 'inadvertence, accident or mistake,' it is impossible to believe that he did not discover the omission much earlier. In the language of the Court in Miller & Co. vs. The Brass Company, it plainly appeared on the face of his patent and must have been seen on opening the paper. The patentee knew what he had in-

cturers of Light Hardware.

The patentee knew what he had invented, must necessarily have understood its scope and extent. He may not have comprehended all of the uses to which it might eventually be applied. But to secure a different use simply does not require a different or additional claim. What he did not claim, he must be regarded in view off his subsequent conduct as intending to dedicate to the public.

The patentee knew what he had invented in vente and interest of the subsequent conduct as intending to dedicate to the public.

The patentee knew what he had invented in vente and interest to the may not have comprehended all of the uses to which it might eventually be applied. But to secure a different or additional claim. What he did not claim, he must be regarded in view off his subsequent conduct as intending to dedicate to the public.

The patentee knew what he had invented, must necessarily have understood its scope and extent. He may not have comprehended all of the uses to which it might eventually be applied. But to secure a different or additional claim. What he did not claim, he must be regarded in view off his subsequent conduct as intending to dedicate to the public.

The patentee knew what he had invented in view of his subsequent conduct as intending to dedicate to the public.

the public. * * * * * The bill must for the foregoing reason be dismissed with costs, &c."

Taking these decisions as a guide, we are of the opinion that the courts would hold the reissue invalid on the question of unreasonable delay alone. It is clear to us that in his original patent Siemens secured all that he had hoped to secure, and in fact everything that he asked for. When his case was originally presented he asked for three claims two relating to an improvement in the process of making steel and one to the construction of the hopper. The application was amended by his attorney who claimed the process claim, and also several other claims relating to the hopper and its attachments.

relating to the hopper and its attachments There was no attempt made in the presecu tion of the original application to secure claims on the features of construction cov-ered by the claims of reissue 7863. The construction and function of such parts was not even explained in the specification. All this goes to show that Siemers did not con-sider such features as constituting any por-tion of his invention. If the contrary had Something Practical at Last!

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ROCHESTER, R and at the expiration of this period of time concludes to apply for a reissue. But his application was not for the purpose of correcting or strengthening his claim, as he secures in one reissue division substantially a duplicate of his original patent. The reissue application was made for the purpurpose of securing claims to features of construction not described, or claimed or suggested as forming any part of his original invention. We are of the opinion that the courts would hold that the reissue is invalid for the reasons stated viz., that it is for a

for the reasons stated viz., that it is for a separate and distinct invention from that for which the original patent was granted; and, second, That the patentee did not exercise due diligence in making his reissue application. Respectfully submitted, LEGGETT & LEGGETT.

It is reported that the National Mineral and Metallurgical Exhibition, which was to have been opened at Madrid in May next, has been put off till April, 1883. Spanish diplomatic representatives abroad will be charged to invite exhibits of mining products and metallurgy, articles intended for exhibition being received up to February 15, 1883.

It has been noticed that copper, when melted with salt, and subsequently cooled, is much tougher than ordinary copper, this being due, in all probability, to the removal of the cuprous oxide which is generally present in greater or less quantities. It has also been observed that the addition of salt to molten copper has the same effect as poling, and it seems that the determination of the

appealed from the judgment of the office in loss of weight after such treatment is an easy 1360 to its judgment in 1376; from the Commissioner and Examiner of that date to the rous oxide present.

LABOR AND WAGES.

A letter from St. Louis says: The blast A letter from St. Louis says: The blast furnaces connected with the Vulcan Stoel Works are out on a strike for wages, amounting to a raise of 25 cents per man for keeping, top and bottom filling, helping and inon carrying. Joliet pays keeper, \$3: helpers, \$2.35; top fillers, \$2.35; bottom fillers, \$2.25; iron carriers, \$3. Vulcan pays keeper, \$2.50; top fillers, \$2.10; bottom fillers, \$1.75; iron carriers, \$2.25; helpers, \$1.90.

There is a strike threatened at the Pittsburgh Hinge Works against a reduction of 20 per cent. on general work and 30 per cent. on stock.

About 200 men in the blast furnaces of the Bethlehem Rolling Mill struck on the 19th,

About 200 men in the blast turnaces of the Bethlehem Rolling Mill struck on the 19th, upon notification that their demand for an increase of wages would not be conceded. The strike lasted until the 22d, when most of the strikers resumed work

The Mineral Ridge district miners, Cleve-land, who have been working at 10 cents reduction, came out of the mines on the 18th and will await the action of the State Committee at Columbus. The Churchill miners gave notice that 10 cents advance would be asked after next Monday.

A number of secret emissaries from the Pittsburgh iron districts are quietly operating in the Lehigh and Schuylkill valleys with a in the Lenigh and Schuylkill valleys with a view of inducing men in furnaces and rolling mills to go on strike. At Clarke, Reeves & Co.'s Phonix fron Works, where one strike recently occurred, but was adjusted, it is said several Reading officials of the Amalgamated Association are endeavoring to induce the leading workers to strike and close the mills. If there is any truth in the close the mills. If there is any truth in the close the mills. If there is any truth in the above report, which was widely telegraphed over the country from Philadelphia, it is probable that the Amalgamated Association are doing just what they have been doing for the last 10 years, trying to get the Amalgamated Association establish d East. Trouble is brewing among the ironworkers at Johnstown and great stylke is forwed.

at Johnstown, and a great strike is feared.—

Associated Press. There may be something in this report. The Bessemer steel works have not had many labor troubles, but they have been increasing. The extreme West-ern mills were the first to suffer. Then Homestead but recently, and it is under-stood that the Amalgamated Association has

secured a footing at the Edgar Thomson.

The strike in the Cumberiand (Md.) region still continues, and both parties seem determined as ever. The miners in this region have the reputation of being a superior class of men. If this is so, and both sides are willing to do what is just, there should be no

willing to do what is just, there should be no trouble in coming to an agreement.

On Monday work was resumed at the bar mill in the Clinton Iron Works, Pittsburgh. Work has been suspended in this department for the past four weeks, owing to a strike of the straighteners, hook-ups and drop-downs. The men were paid \$1.65 and \$1.75 per day, but they wanted to be paid 16 cents a ton. which would enable them to earn about \$2 per day. All of the old employees have been discharged and new men have been employed at the old wages.

The miners' convention, at Columbus. Ohio., passed a resolution that "the miners of Ohio reduced since February 1, 1882, demand

Ohio reduced since February 1, 1882, demand the restoration of former prices, and if refus-

ed, to mine no more coal until conceded. This resolution to take effect Monday, April 30." The following wages are given as those paid at Bethlehem, Pa: Kespers, \$1.80; helpers, \$1.59; casters, \$1.54; fillers, \$1.50; cin dermen, \$1.48; stock breakers, \$1.26.

NEW PUBLICATIONS.

We have recently received a very useful little collection of rules and tables, published by the Moniteur Industriel, and entitled "Memento de L'Ingénieur et du Constructeur." The book, which comprises some 137 pages, contains a small table of logarithm of sines, tangents, cosines and cotangents, besides useful information for the spacing of boiler rivets, &c. It is about 3 inches in length and 2 inches in width.

Structural Steels .- 1V.

BY ALBERT F. HILL, C. E.

Another important consideration in weld-ag steel is the heat. While it is impossible to give any specific rules on this point, the which will be for od in all cases, is not to heat the steel any higher than is absolutely necessary to effect a weld—the higher the steel is in carbon, the lower the heat at which it ought to be worked-and next, not to finish the opera tion at too low a temperature. It will, therefore, be best to work the steel as rapidly as possible, reheat as often as is required to prevent wor ing or finishing cold, and anneal immediately after welding the whole piece—not only the immediate vicinity—containg a weld, at a heat higher than that at the finishing.
In the manufacture of eye-bars the hydrau-

lic upsetting process will, without doubt, be found to give the best results, yet the writer has no hesitation in saying that the eyes may be formed by welding, if done by experienced hands who really understand the heating and treatment of steel, without any greater risk of imperfect welds than there is in iron. The danger from welding is no greater in steel than in iron, and the source the same in both—namely, bad workman-

As regards the enlarging of the ends of round bars for cutting screw-threads by upsetting, it is not to be recommended. The setting, it is not to be recommended. The better practice will be found to be to cut the threads directly on the rolled bar, and compensate for the loss in strength by increased diameter of the whole bar, rather than to resort to upsetting. While this is not practicable in iron, it is in steel, as the far greater strength of the material admits of it with but triffing increase of diameter. trifling increase of diameter.

EFFECTS OF PUNCHING AND SHEARING. That both shearing and punching affect

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sensibly the tenacity and elasticity of steel, square and 5 feet thick. Over 350,000 bricks sensibly the tenacity and elasticity of steel, has been long recognized, but to more recent investigations is due the establishing of the fact that these effects are purely local, and can be therefore corrected, not only by annealing, but also by other and simpler mechanical treatment. The importance of this discovery to the adaptation of steel to riveted work can hardly be estimated. The impracticability of making use of the corrective agency of annealing, in riveted-girder work, for instance, is too self-evident to need dislowing facts, viz. :

I. That the effects of punching and shearing are essentially local, and spread only over a very restricted region, less than .04 inch on the edges of the punched or sheared parts in plates less than .5 inch thick.

2. That the annealing will correct the alterations caused by shearing or numehing.

terations caused by shearing or punching.
3. That the removal of about .o4 inch of the metal from the punched or sheared edge

will destroy the effects of punching or shear-ing and bring the metal back to the state it would be in if drilling or planing had been

resorted to in the first place.

Table X gives the results of tests made by the writer at Watertown Arsenal, with openhearth steel plates, to establish the comparative value of drilled, punched, and punched and reamed holes, &c.

completed in about a year, and the church works will probably employ over 400 hands.

The production of crucible steel in England by the Siemens regenerative gas furnaces during 1881 amounted to 3500 tons, represented in about a year, and the church works will probably employ over 400 hands.

discovery to the adaptation of steel to riveted work can hardly be estimated. The impracticability of making use of the corrective agency of annealing, in riveted-girder work, for instance, is too self-evident to need discussion, wrile on the other hand, to resort of drilling rivet holes instead of punching them, to avoid the evil effects of this latter, as recommended by Sir Edward J. Reed, enhances the price of the steel considerably. The experiments of Lieutenant Barba, made at L'Orient, conclusively established the following facts, viz.: weighs 80,000 pounds. The shaft is 17 inches in diameter and 17 feet long. A reservoir 250 feet by 100 feet in size, together with several tanks on the roofs of the buildings, capable of holding 100,000 gallons of water, are deemed sufficient to supply the boilers and to render efficient service in case of fire. The main building is furnished with three brick inclosed staircases, two in the corners and one in the center, and iron bridges lead from each upper story to the adjoining buildings. The machinery, which is of the latest and most improved pattern, is imported from the works of Lawson & Sons, Leeds, Eng-land. All necessary improvements will be completed in about a year, and the entire works will probably employ over 400 hands.

TABLE X.-TEST OF O. H. STEEL PLATES WITH DRILLED, PUNCHED, REAMED, ETC., HOLES.

Carbon.	Descrip	ption of	Average ultimate tensile strength	Per cent.
Per cent.	Plate specimen.	Hole.	in lbs. per square inch of effective section.	elongation of hole.
0.30	%-inch rolled plate, cut in planer or, all edges, Strips 2/4 inches wide, 18 inches long,	Drilled 1-in. diameter. Punched, 0.935-in. diameter Reamed to 1-r in. diameter Punched and 0.935-in diam. Annealed 0.935-in. diameter	98,966 200,700 78,970 66,208	20. 20. 21. 3-3
0.40	3% inch rolled plate, cut as above. Strips, 13% inches wide, 15 inches long.	Drilled, o.6-in. diameter	99-747 104-253 87-910 8e-550	15.5 19. 18.9 5.
0.50	3-16 inch rolled plate, cut as above. Strips 1 inch wide, 12 inches long.	Drilled, 0.4-in. diameter Punched, 0.4-in. diameter Reamed to 0.5-in. diameter Punched and co.45-in. diam Punched, 0.45-in. diameter	86,963 89,043 84,951 82,330	99. 26. 81. 18.

The results given are, as in previous tests, senting an increase of 450 tons on the output averages, and are conclusive evidence of the of the previous year. The results given are, as in previous tests, averages, and are conclusive evidence of the restoration of strength effected by the enlargement of the hole by reaming. The bad effects of punching and shearing are due to the intense local pressure produced by the shears or the punch; in the first place, then, the limit of elasticity in the metal is exceeded, which, of course, is followed by loss of ductility; in the next place, this pressure causes a solution of the mechanically mixed carbon, and effects a real tempering of the parts subjected to these operations, and this causes the marked increase in hardness of the affected parts. To arrive at an estimate of the saving effected by punching and reaming over drilling, we give the subjoined tables XI and XII, which contain the results of trials made by Lieutenant Barba upon 10 plates, 0.31 inch thick, each plate weighing 600 pounds. These plates, symmetrical and in pairs, were to have the same number of holes; one series of 5 plates was drilled, the other series was punched and the hole: enlarged.

Gripping Device in Testing Machines.

Gripping Device in Testing Machines. holes enlarged.

TABLE XI.-DRILLED PLATES.

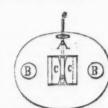
e e	198	No. of w		
No. of pla	No. of hol	Machine.	Workman.	Remarks.
1	296	18.30	18.10	Holes n'r together.
2	330	15.70	85.30	Curved outline.
3	110	9.0	9.0	Holes far apart. Rec- tangular plate.
4	152	11.30	11.30	Hoies n'r together.
5	131	11.0	11.0	Rectangular plates
Total	915	65.30	65.30	

TABLE XII.-PUNCHED PLATES AND ENLARGED

Punch.	Drill.	Total.	Punching.	Reaming.	Total.
2.0	7.0	9.0	8.0	7.0	15.0
1.0	7.0	8.0	8.0	7.0	11.0
8.0	4.30	6.30	8.0	4.30	12.30
	ef 1	ef machin	ef machines. Discrete discret	of machines. of r	Punching To 1.2 Punching To 1.

The working expenses were then 65 hours 30 minutes for drilling, and 62 hours 15 minutes for punching and reaming, or about 5 per cent. advantage for this last operation. It must be observed that the working expenses for punching comprise labor of one journeyman and three laborers handling plates, and as the latter's wages are less than the journeyman's, 5 per cent. economy is a minimum. The working hours of the machines were, for complete drilling, 65 hours and 30 minutes, and for punching and reaming, 37 hours 30 minutes, or 42 per The working expenses were then 65 hours reaming, 37 hours 30 minutes, or 42 cent. less in the latter case. These adv tages can, of course, be greatly increased by special machinery, such as multiple reamers, &c.

A Well Arranged Manufacturing Plant.—The jute cordage works of Messrs. Finley and Schlichter, near Philadelphia, now in course of erection, have several fea-



Gripping Device in Testing Machines. -Fig. 1 .- Plan View of Clamp with Specimen in Place

ways been a difficulty when wedge grips are used for testing purposes, and the new device undoubtedly supplies a long-felt want. It is well-known to those who have conducted experiments with machines for testing tensile strength, that it is of the greatest importance that the clamp which is used to secure the specimen under test in the testing machine should transmit the strain in a direct axial line through the material, without tendency

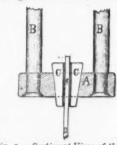


Fig. 2.—Sectional View of the Same Elements.

to lateral strains. In the clamp patented by H. Riehlé, November 8, 1881, the wedges have their gripping faces slightly convex, or wedge-shaped, so that the grip will be strong-est in the middle of the specimen, and weakest on the edges, so as to avoid the rupture of the edges through having the greater grip on the outside. In our engravings, Fig. 1 is a plan of the clamps with the specimen in position; the curve-faced wedges are marked CC: D is the specimen gripped between the



Fig. 3.-Section of Wedges.

wedges; e is a guide pin which guides the specimen to the center of the testing tools. Fig. 2 is a sectional view of the same elements, and Fig. 3 shows a section of wedges with wedge-shaped faces. The variation of the wedge-face from a plane is much exag-The variation of tures of interest. The chimney stack, which is 201½ feet high, is 13 feet square at the base, tapering to 9½ feet at the top, and rests on a solid block of concrete, 30 feet chimney stack, which is 201½ feet high, is 13 feet square at the base, tapering to 9½ feet at the top, and rests on a solid block of concrete, 30 feet chimney and is giving entire satisfaction.

The Iron Age

Matallurgical Review.

New York, Thursday, April 27, 1882.

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CONTENTS.

First Page.-English Forgings and America Castings. The Porter-Allen Steam Engine as Applied to Rolling Mills.-IL

Third Page, -The Porter Allen Steam Engin as Applied to Rolling Mills. -II. (Continued).

Fifth Page .- The Porter-Allen Steam Engin as Applied to Rolling Mills.—II. (Concluded). The Davis Island Dam. Duration of Steel Rails. Neventh Page .- Notes on Siemens' Furnace

Ninth Page .- Notes on Siemens' Furnace Pat

Rerenth Page .- Notes on Siemens' Furnac Patents (Concluded). Labor and Wages. New Pu'llcations. Structural Steels.-IV.

Thereenth Page .- Structural Steels .- IV. (Con A Well Arranged Manufacturing Plant Gripping Device in Testing Machines.

Fourteenth Page. - The Siemens Furnac The Demand for Increased Wages at Pittsburgh. Steel Blooms. Amending the Patent Laws. Ships Without Cargoes.

Fifteenth Page .- Anglo-French Commerce The Ordnance Department and the Emery Testing Machine. The American Society of Mechanical Engineers. Washington Notes.

Secentrenth Page - Washington Notes (Con cluded). United States Tests of Materials.

I wenty-first Page.-Trade Report-Britis Iron and Metal Markets, Financial, General Hardware Iron, Metals, Coal, Old Metals, Paper Stock, &c. Foreign Trade Movements.

Twenty-second Page -Foreign Trade Move ments (Concluded). Imports. Exports. Philadelphia, Pittsburgh. Chicago.

Twenty-third Page .- Chicago (Concluded). Chattanooga. Louisville. Cincinnati. St. Louis. Baltimore Bichmond. Foreign. Agricultural Making at Springfield, Ill. A Singular Disease in Russian Chrome Works. Another Exhibition Company, The Iron and Metal Exchange. Metallurgical Notes.

Twenty-fourth Page .- Metallurgical Notes Industrial Items. The Service of the St. Gothard Tunnel. The Austrian Lead Mir. ing Industry. Peculiar Crystallization of Potas sium Chloride. Malleable Nickel.

Twenty-seventh Page .- The Iron Age Direc

Thirtieth Page .- New York Wholesale Prices Thirty-first Page .- New York Wholesale

Thirty-second Page .- New York Wholesale

Thirty-seventh Page .- Philadelphia and Pitts bu-gh Hardware and Metal Prices.

Thirty-eighth Page .- Boston Hardware and

The London correspondent of the Manchester Guardian says: "The Conserva " tives are making political capital at all the " naval ports of the acceptance of contracts for American beef for the Navy. It is " expected that the subject will be raised "against Parliament. There is a rumor which is probably true, that the Govern ment intend to abolish the curing estab " lishment at Deptford, and are in favor of " a system of obtaining supplies by contract " from private firms." If England does not rise as a man to combat this innovation, as she did when ship money was demanded, the spirit of Hampden and Pym has surely departed.

The Siemens Fornace Patent.

Elsewhere in this issue we print some Notes on the Siemens Furnace Patent" which will probably be read with interest by those opposed to the further extension of this patent. Having read with some care much, if not all, that has been said by those who favor an extension, we fail to see any reason why Congress should favorably consider this application. Manufacturers who purchased the right to use the Siemens furnace for a lump sum, probably knew what they were buying when they paid their money. If they did not know how long the patents would run they were cortainly very foolish to purchase without such knowledge, and can hardly expect that Congress will rectify their mistake by extending the life of the patent. Some of those who are using the furnace on a royalty have paid more than the right would cost if purchased out and out, so that even the selfish argument advanced by those who own the right falls to the ground. The owners of this patent have no right to complain of injustice should their application for an extension be refused. They have enjoyed liberal returns, and, in the language of the day, have worked the patent "for all it is worth." It is time this invention should revert to the community, and the position of the manufacturers who are seeking to have it extended on the ground that they have purchased the right to use it, indicates a selfishness so colossal as to command attention, if not to excite admiration. We called attention two years ago to the fact that a movement to extend these patents would be started, and took then the same ground with regard to them that we do now, namely, that having been more than ordinarily profitable to the owners during their proper life, there was not only no ground for an application for their extension, but every consideration of public policy demanded that such applicaion should be refused.

In our Washington letter of last week a resumé of the principal points in the application of the Messrs. Siemens for the extension of the patent on their furnace was given. Their memorial asking for the extension of their patents, which is dated October 1, 1880, is signed by the following manufacturors: Otis Iron and Steel Company, Cleveland Rolling Mill Company, Jos H. Brown Iron and Steel Company, National lube Works Company, Nashua Iron and Steel Company, Anderson & Co., Delaware Iron Company, Morris, Tasker & Co., Joliet Steel Company, Bolton, Bulley & Co., Bay State Iron Company, St. Alban's Iron and Works. There may be others that lavor the extension. Park Bros. & Co. certainly do; but the above are all the names appended to the printed memorial. Of these welve names, two are now out of business Anderson & Co. and the Jos. H. Brown Iron and Steel Company. The mills of the former are idle, and those of the latter are run by the Calumet Iron and Steel Company.

The memorials in opposition to the exten sion are signed by parties in the East, at Harrisburgh, Pittsburgh, Youngstown and Cincinnati. We have no full list of the reonstrants, but among them are such firms as Singer, Nimic's & Co., Miller, Metcalf & Parkin, Spang, Chalfant & Co., Mackintosh, Hemphill & Co., Jones & Laughlins, Oliver Bros. & Phillips, Hussey, Howe & Co. Smith, Sutton & Co., Pittsburgh Steel Cast-ing Company, and Phillips, Nimick & Co. In the memorial for the extension of the

patents some interesting figures are given as to the amount of money received for the covalties on the same. It states :

In calculating the remuneration received by the nate attential the time, ingenuity and expense postowed upon the patent sought to be extended, and the introduction of it into public use in the untry, it is necessary to take into consideration several patents issued to Charles William Siemens one of the patentees, as these patents have been mentioned and included in licenses granted, and all amounts received from the business of introducing the regenerative gas furnice into public use in this country have been derived solely from royalties paid by licensees. It is believed, there-fore, that the following account of receipts and expenditures, taken from the well-kept books of the several agencies of the inventors, is as accu-rate as it is possible to make it: Total amount received from royalties

under licenses, including three pat-ents, for particulars of which see 8443. 52.35

under licenses involving four patents, for particulars of which see Schedule

involving six patents, for particulars of which see Schedule D......

Total receipts from all sources.... EXPENDITURES. Fotal amount expended by the pat-ento-s in introducing the regenera-tive furnace into public use in the United States, for details of which see

Schedule D ..

Net receipts on all patents for which licenses were granted ... It will be noticed that the net receipts, or prolits from all sources, is but slightly in excess of per cout, on the savings effected by the use of the nventions for the several purposes as heretofere neutioned. From an arithmetical computation assed on the above figures (see schedule E for particulars) we find that the remuneration which he inventors have receive if for the introduction into public use in this country of the patent sought be extended, amounts to \$5,000,000,000,000 or feected from the introduction of the furnaces for effected from the introduction of the furnaces for he purposes mentioned, and which has consti-uted the business of the inventors since the patnt sought to be extended was granted. The fo

of this character. See the decisions of the Com or this character. See the decisions of the Commistoner of Fatents in the extension cases of Strong and Ross, decided January 5th, 1871; Simpson, decided February 2d, 1871, and Hayden, decided March 15th, 1871.

The schedules referred to in the statement do not accompany the memorial, so that we are unable to judge as to the character of the expenditures. They seem a very large amount. Mr. Ryder, of Chester, Pa., how ever, answers this as follows:

On page 18 of memorial the statement is made that the total receipts from all sources for the American or United States patents have been \$765,337.50. It is claimed, on the contrary, that a much larger sum has been received, or that unjust discriminations have been made in favor of some parties, as the 42 melting furnaces mentioned on page 16 would alone pay nearly \$600,000 at the rate charged some of them, and it is believed that the 108 heating furnaces mentioned on page 17 have paid over \$300,000, if a uniform rate has been charged to all users. Large sums have also been paid to the agents for engineering talent and drawings, which, in some cases, have been very sparingly furnished. On page 19 we find the statement that the sum of \$537,775.49 has been expended in intr-ducing the furnace into public use. We do not know of the expenditure of any money by Siemens or his agents in this coun-try, except for the procurement of the United States patents. A considerable sum has undoubtcedy been spent in developing the Siemens ro-tator for the direct reduction of ore, but Siemens ro-tator for the direct reduction of ore, but Siemens' title to this invention has always been, and is to-day being, contested by other inventors, some of whom have expended as large a sum as Siemens in experiments. The Siemens furnace proper is not neces ary to this process, very few of the features sought to be extended being used.

Mr. Ryder also says : We also find the statement on page 21 of memo rial, that Mesers. Siemens have furnished drawings and facts irrespective of patents. This we deny, and make the statement that they have persistently neglected to furnish drawings to parties who have erected their furnaces and paid them thousands of dollars royalty, although repeatedly urged to do so, and having received pay for the drawing s.

In statements and contradictions of this kind the public have but little interest. The extension of patents after they have enjoyed a full term of profitable life is contrary to public policy and in every way objectionable. The Siemens patent has expired in England without possibility of renewal, and this fact alone is a sufficient answer to any argument in favor of its further extension here.

The Demand for Increased Wages at Pittsburgh.

From indications that come from various directions, it is evident that many, if not all, of the demands of the ironworkers at Pittsburgh are not justified, even by the ironworkers themselves. The Pittsburgh local papers publish interviews which indicate that the sentiment among the men is very far from being unanimous in favor of the demand, the shrewdest among them regarding it not only as a violation of faith, but exceedingly impolitic, even if there was no positive pledge broken in the demand. This feeling crops out even in the Amalgamated Association reports as they appear in the Labor Tribune. In the department edited by the Secretary of the Association, the folwing appeared last Saturday: "The time has arrived when the several districts in the Amalgamated Association prepare their scales of prices for another year. The Sixth district by delegates met in Youngstown on the 8th inst., and resolved that they were satisfied with the present scales. But, as that district is governed by Pittsburgh prices, it will have to wait until this district agrees upon a scale and then adopt been a good deal of such feeling abroad in the rate on the other. the organization.

In our last issue we gave an outline of the demands. The only addition to the statement then made is in connection with muck rolling. The advance of 50 cents a ton boiling would advance the muck-rolling scale 64 cents per ton, as muck rolling is paid 121/2 per cent. of the price of boiling. In addition to this, the muck rollers gave notice that they would demand an extra price for the hot months, but did not give the specific rates demanded. Of these demands the worst seems to be the boilers', sheet, and engineers' scales. To show the relation between the present scales and those demanded, we give those for boiling and sheet rolling-parallel columns. The engineers' scale is a new demand, and there is no previous one to make comparisons with:

Association's Card Rates.	Old Scale.	New Scale.
2 5-100	 \$5.50	\$6.00
2 6-1:0	 5.60	6.10
9 7-100	 5.70	6.20
2 8-100	 5.80	6.30
2 9-10C	 5.90	6.40
3C	 6.00	6.50
3 1-100	 6.10	6.60
3 2-1-C	 0.25	6.75
3 3-10C	 0.37	6.87
3 4-TOC	 6.50	7.00
3 5-103	6.65	7.85
3 6-10C	 6.89	7.30
3 7-100	 6.05	7.45
3 8-10C	7.13	8.60
3 9-100	 7.83	8 75
4C	7.40	8.93
4 I-IoC	7-57	8.07
4 2-10C	7.75	F.25
4 3 100	7.92	8.42
4 4-10C	8.10	8.60
4 5-10C	8.30	8.85
4 C-10C	8.50	9.00
4 7-10C	8 70	9.20
4 8-toC	6.90	9.40
4 9-70C	 0 10	9.60
5C	 0.30	9.82

One dollar per ton extra for all castings ov 75 pounds in one piece. One dollar per ton extra for hot (ne) fix.

SHEET MILL

It is agreed that at a 31/2 cents Western Iron ant sought to be extended was granted. The fore-going method of computation has been adopted occause your memorialists known of no other, and because they are advised that it is in accord-ince with the practice of the Patent Office in cases. I with the practice of the Patent Office in cases.

Gau	ges.	*			New Scale
No. 8 and	hear	rier	 	 \$4.50	\$5.17%
Nos. o to	XX		 	 5.00	5.75
Nos. 12 to				6.00	6.90
Nos. 15 to	E7		 	 7.00	8.05
Nos. 18 to				8.50	9-77%
Nos. 22 to				10.00	XX. 50
Nos. 25 81	ad 26.		 	 11.00	12.65
No. 27					13.80
No. 28					14.95
No. 29					16.10
No. 30			 	 15.00	19.50

ever name called, No. 22 and lighter. All sheets, No. 18 and lighter, over 32 inches wide, 10 per cent. extra on above prices. Heater to receive one-fourth above prices and 3 cents per bundle extra, to be paid by the company for all iron, No. o and lighter, annealed in open furnace; shearso and lighter, annealed in open furnace; shear-man one-fifth; roller to receive balance and pay rougher and catcher only.

For all sheets, No. 18 and lighter, over 30 inches and under 24 inches wide and 84 in length, to per cent. extra, and all over 36 inches wide, 20 per

We do not believe that the Pittsburgh manufacturers will pay these prices, in view not only of their being exorbitant, but also in view of the condition of trade. The meeting to be held on Friday of this week, will give some indication of the probable outcome.

Steel Blooms.

We see by the synopsis of Treasury decisions for March, which is just at hand, that the department rules that the decisions at present in force admit all "steel railway blooms, of whatever size, at 45 per cent. rate any blooms except steel railway blooms." That is, blooms, of whatever size, intended for manufacture into rails, are admitted at 45 per cent., but blooms intended mportation of these unless they are fraudulently imported as "steel railway blooms" and used for other purposes. It requires no argument to show that the condition into which these Treasury decisions have got this matter of steel blooms is If it is law that all steel absurd. blooms for the purposes mentioned should pay 21/4 cents duty, there is no good reason why "steel railway blooms" should not. In many cases the carbon is the same, the cost is the same, and the size is, or can be made, the same, and why a bloom that is going into a piece of machinery or agricultural steel should pay 21/4 cents, while the same bloom going into a rail should pay 45 per cont, or say less than ¾ cents, is difficult to see. The protectionist would answer, of course, that it is not right and was not so intended, and that under the law all blooms should pay 21/2 cents-those for rails as well as those for other purposes; 21/4 cents may be too high; protectionists even may grant this. As Judge French once argued, this rate is prohibitory; but that is not the question The point is, What is the rate under the law ! and it certainly seems a fair conclusion "it." This information would not have that what the law meant should be the rate been published so openly if there had not on one class of blooms it meant should be

Amending the Patent Laws.

STAMFORD, April 20, 1882. To the Editor of the Iron Age.—Sin: We notice in your valued paper of the 13th inst, an article headed "A Vicious Amendment to the Patent Laws." We desire to disclaim, on the part of a wishes to describe the exceedingly careful in so doing, or he will cut off the term of his United States patent three years and upward.

States patent three years and upward.
Suppose an Awerican wishes to take out patents in the United States, England, France and Belgium. Now, he must get his American patent first, or his term is shortened. But he must not get his patent here too soon, or he will vittate his foreign patents. He is therefore obliged, by means of the cable, to arrange with different raceas of the caste, to arrange with discrete age at thousands of miles away to act for him just at the right moment te protect his interests in these different countries. In most cases he is in doubt, after all, whether some, or perhaps all, of his patents are valid, and whether his enterprise. has not shortened the term of his United States patent. We do not see how it is just to American inventors to grant them a patent in this country and then allow it to be affected in any way whatever by the operation of the law of another A further serious objection to the present law is

that the operation of the patent tax laws of other ntries may cause a very serious diminution in the term of an American patent. As the effects of a law are generally best seen through its operation in specific cases, we venture to give an experience of our own. We purchased an invention from an American inventor, in ignorance that a patent had been taken out in England. In the English patent we had no interest whatever, and were a little surprised a short time ago to receive a dispatch by cable from the assignee of the English patent about as follows: "Authorize me to draw on you for £50 to pay tax on _____ patent, or American patent will expire." This we felt obliged to do, and it struck us that it was very much in the nature of a forced loan by ope-

cured by inserting after "17 years" the words, "from the dates on which said patents were granted in this country." We would point out that on patented articles it makes no difference to the American manufacturer whether foreign manufacturers are paying a royalty or not, for the reason that the very existence of a patent pre-vents anybody from competing in this courtry with the American manufacturer. In other words it is fair to assume that no manufacturer would contract to assume that no manufacturer would contract to pay a royalty which he does not con-sider profitable, and that, so far as the manufac-turer himself is concerned, he would like to have all of his patents under which he pays royalty, and which give him control of the articles he and which give him control of the articles he manufactures, continued indefinitely. It is chiefly, however, to avoid the necessity of such great care and risk in taking out foreign patents that the promoters of the amendment desire its passage, and if this cauld be accomplished without injustice to any one, we high it would be a desirable. tice to any one, we think it would be a desirable, and not a vicious, amendment. Very respectfully, Schuyler Merritt, Sec'y. The difficulty complained of by Mr. Mer-

rit, and which, he says, the bill in question is designed to remedy, is one which, with proper care on the part of our inventors, can be avoided. Why we should need two years' time in which to cover in America inventions patented abroad, is not clear to us, and as we read the bill it would seem to grant much too liberal privileges to the foreign inventor, if not to the citizen. Protection under letters patent is in no sense a natural right. It is a benefit conferred by the State in consideration of the full publication in such language as to be clearly intelligible to those skilled in the art to which it relates. In consideration of this privilege, ad valorem," but do " not admit at that it is right and proper to require the inventor seeking the favor of protection under our patent laws, to publish promptly in this country the invention he claims, and to enter at once upon the enjoyment of the privifor manufacture into wire, or sheets, or lege granted him, that the invention patented agricultural shapes, or bars, or anything else may the sooner become public property, and except rails, must pay 21/4 cents a pound. As contribute in the largest degree to the adbillets are covered by the decision of Feb- vancement of the arts. We think the way ruary 12th, 1870, and ingots by the law of in which our patent laws most need amend-1864, this decision of 1882 subjects to a duty ment is in the matter of some provision for of 21/4 cents a pound all steel, in forms from the lapsing of patents upon the end of the the ingot to a bar, including both, except term on which they are issued. A very that for rails. In the present condition of large proportion of the patents now in force the steel rail market this is a virtual victory are of no possible value, except as giving for the American manufacturers, as blooms their owners a chance to establish claims for rails cannot be imported and rolled into to royalties to which, in equity, they are rails on this side at a profit. Blooms for not entitled. The inventor who secures other purposes might if the duty was 45 a patent should, we think, be required to per cent., but this 234-cent rate cuts off the keep that patent alive by biennial or triennial payments. His inability to do this might seem to render injustice in some instances, but the interests of the State take precedence of those of the individual, and a patent which is not worth keeping alive should lapse and the invention it covers re. vert to the people. At present, laws designed for the promotion of invention and the encouragement of progress in the useful arts, are largely abused to make industry and enterprise pay unearned tribute to owners, by purchase or assignment, of benefits which have profited the inventor little or nothing. Patents should die as soon as possible after they cesse to have an immediate and present value to their owners. As to the amendment referred to in the above communication, we fail to see good reason for changing or modifying our comments. We presume the manufacturers interested in urging it are doing so with entire good faith, but, as Mr. Merritt admits, manufacturers are very apt to look upon patents from a somewhat different standpoint from that taken by others, and are disposed to regard as a right what others recognize as a

Ships Without Cargoes.

The stagnation in the export trade, more particularly as regards breadstuffs, cotton and other bulky merchandise, is bringing about a condition of affairs in ocean steam transportation which has no precedent. The outlook, from the standpoint occupied by steamship agents and shippers on this side of the Atlantic, is very discouraging. Provi-Laws." We desire to disciaim, on the part of a number of manufacturers who are urging this amendment, any knowledge as to the presence of the "Africaa" alluded to in your article. The great objection to the present law is, that it in effect says that if any citizen of the United States wishes to be enterprising enough to take out forwishes to be enterprised to the for turers, but they fail to stimulate exports to any perceptible degree, and steamers are compelled to fill up with stone ballast. Within the last day or two shippers could not be induced, in many instances, to take grain room at any price, which is exemplified in the offer of freight room to Liverpool at 1/4d. It is even affirmed that a lot of 2000 sacks of low-grade flour is being returned from Europe because unsaleable at present valuations. Meats are also being reshipped from Liverpool and Antwerp. In face of such facts, prices on this side continue to advance, the news from the West serving to encourage a higher speculative excitement. True, advices from abroad indicate a wellsustained and gradual advance in breadstuffs, but at rates so sluggish as to make a fast-widening margin between the foreign and domestic holders. The present "bulge is ascribed to oversold near deliveries and to depleted stocks-of course, putting further off the hoped-for renewal of shipments for export. Apparently there is no alternative but to wait for the harvesting of a new crop, unless, perchance, the bottom falls out in the general market.

In our Washington correspondence of last week we gave in extenso the recent decision of the Treasury Department on the subject It is agreed that at a 3½ cents Western Iron
Association's card, the prices for rolling on a sheet
and jobbing mill shall be as follows, with 2 per
cent. additional for each r-10th advance of said
card, and 2 per cent. decline for each deduction of
card, and 2 per cent. decline for each deduction of
card, and card, per ton of 2240 pounds.

Regarding your objection that the law as drawn
of splayed hoop iron for parrols. The noop
iron in this case was cut to specific lengths
age of the act, you are right in assuming that
for barrels, punched at one end, and splayed
such was not the intention of the promoters of the
such was not the intention of the promoters of the
out, and the objection you urge could be easily April 27, 1882.

the department was that this was not a finished hoop, that it differed from the hoop iron cut to length and punched, which was the subject of Decision 4496, only in being splayed, and as it was not a completed hoop, was to be regarded as hoop iron. This is the first victory that the manufacturers of hoop iron have had for some time, and they are correspondingly elated. Under the Treasury decisions at present in force, hoop iron cut to lengths and punched, hoop iron cut to lengths, punched and splayed to fit barrels, and cotton ties with buckle loosely attached, are all dutiable as hoop iron, but hoop iron cut to lengths, splayed to fit the barrel, punched at one end, and with rivets or studs at the other, or, as it is termed, a completed barrel hoop, and cotton ties with the riveted buckle, are dutiable at 35 per cent ad valorem. This would seem a "stand-off," but it is not. Very few cotton ties with buckles not riveted are imperfect, and the hoops that are brought in will have the stud or rivet in that is necessary to admit them at 35 per cent. ad valorem.

Angle-French Commerce.

English journalists pronounce the failur of negotiations for a renewal of the Treaty of Commerce with France, absolutely hopeless. Hope virtually expired with the re-tirement of Gambetta from the Premiership of the French ministry. While it is admitted that cruel loss and damage may ensue to many commercial enterprises founded for the interchange of British and French commodities, which a higher tariff will exclude, the London Times does not believe the consequences will be of alarming import to British commerce. "It does not follow," says the editor, "that British goods will be banished from France because no treaty is henceforth to patronize them. Habit is powerful in the course of trade as in all else. French customers who have been used to British manufactures will continue "to purchase them at the increased price. "The mischievous effect of the raised tariff will be more perceptible in retarding the natural growth of trade between the two neighbors than in destroying a trade already rooted. That mischief itself will not last forever. When French consumers have had leisure to observe that they have to bear the weight of the customs their Government has put upon British manu-" factures, and when French producers have "discovered that hightened duties do not expel those manufactures, the French Legislature will retract the imprudence of which it or its leaders are now about to be guilty." It would be in vain to attempt to disguise the fact, notwithstanding these hopeful auguries, that the British mind regards the new aspect of affairs with any

In marked contrast with the falling off in our balance of trade are the reports of the condition of British trade. The returns for the month of March show that imports increased, as compared with that month last year, £1,200,000, and experts increased £1,000,000.

thing but complacency.

The Ordnance Department and the Emery Testing Machine.

WATERTOWN ARSENAL, April 21, 1862. To the Editor of The Iron Age.—Dean Sin: My attention has been called to a letter in your issue of the 6th inst. signed by Gen. W. Sooy Smith, and lest your readers should be led to think that certain of his statements, which conflict with the facts as given in my letter of March 25, if allowed to pass unnoticed, are permitted to pass unanswered because they cannot be successfully refuted, I beg to say a few words in reference there-to, regretting that there should be any necessity for my having to say anything in the matter. General Smith states in the letter referred to, that the testing machine conorder that General Smith may make good this statement, it is necessary that he should had occasion to employ. While not pretending to reach the accuracy of the one used by ton in 1873, when I ordered the first machine.

Again, he says that I should credit the making of the Emery testing machine to the board. I have never claimed the credit of having produced the machine as ordered by the board, but I do maintain that I ordered the Emery testing machine as it is now used, in 1873, 18 months before the board made its ontract, and I have the necessary papers to rove it. The board should have all the credit it is entitled to for the contract which it made for a testing machine. I have no desire to interfere in regard to it. The rescinding by the board of the contract made by me in 1873, for a 400-ton testing machine, cost the Government \$10,988.79, for which it received no other equivalent than the rotating ram, or diaphragm apparatus, which is not, and never will be, used. Mr. Emery predicte I at the time that such would be the case, and his prediction has been verified.

neral Smith further says that I knew that the work of making tests was wisely postponed until the machine could be finished. On the contrary, I know that this work was not postponed, but tests to the amount of \$42,378 were made by the board. I did not challenge a comparison of my work with that of the board until the former had been harshly criticised, and then only in self-defense. It was not expected, however, that defense. It was not expected, however, that of time. This was done by taking a comhad done no work, when it is well known that it has made some valuable tests. General Smith claims that the testing machine has been constantly engaged, since the demise of the board, on investigations directed

an expense of \$350.27, on the resistance of cast-iron cylinders to internal strains, which tests the Ordnance Department claim are of no value as referring to ordnance matters, and throw no light on the subject of the conto them in their business. All other tests have been of only general interest, and of no special use to the department.

According to General Smith's own showing, I had urged upon the Chief of Ordnance

the importance of undertaking this work a year before the Society of Civil Engineers took any steps in this direction. What motives may have influenced the Chief of Ordensee in the Company of the Compa What motives may have influenced the Chief of Ordnance in 1872, who was General Dyer, and not Col. S. V. Benét, as stated by General Smith, to ask for an appropriation for a testing machine I do not know. He certainly had good and sufficient reasons presented to him the preceding year. What course the Ordnance Department has pursued, other than that which is a matter of record. I have no means of knowing: it is sued, other than that which is a matter of record, I have no means of knowing; it is, however, a well-established fact that the department would have had a 400-ton testing machine, like that now used at this arsenal, had not the Chief of Ordnance voluntarily relinquished it in order to cooperate with the Society of Civil Engineers in this work of making tests, and for doing which General Smith seems to think that the which General Smith seems to think that the Ordnance Department was deserving of, and should receive, no consideration whatever not even the trifling one of the presidency of the board, in recognition of its priority of inception and commencement of work in this field of investigation. I can but regard it as a matter of regret that the Ordnance Department had not declined to give up its 400-ton machine, and had not continued its investigations as originally contemplated. It would thereby have escaped suspicions which are believed to be unjust, and have been able to do a work creditable alike to itself and valuable to the Government.

T. T. S. LAIDLEY,

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.

FIRST REGULAR MEETING OF 1882.

The meeting was called to order in the Hall of the Franklin Institute, in Philadelphia, April 19, at 10 o'clock, President Thurston in the chair. The President called attention to the fact that there were at the present time 295 members on the roll, and that 35 names were proposed for membership, and would be balloted for later in the session. As these would probably be elected, he thought he was justified in saying that the present membership would amount to present membership would amount to Attention was called to certain features of the catalogue, among which were the lists of past officers and deceased mem-bers, &c., and he said that if no objection was made, these features would be

During the past year the society has been regularly incorporated under the laws of the State of New York. A list of the papers for State of New York. A list of the papers for the meeting and an announcement in regard to the committees were then read. During this time the ballots were counted, and it was announced that the whole list had been duly elected. The first paper of the session was that of Mr. Eckert, upon "The Chronograph for Engineering Purposes, with the Hipp Escapement." This consists of a delicately adjusted cylinder, covered with a thin sheet of paper, carefully blackened. Points resting upon it make delicate tracings as it revolves These points are controlled through electro-magnet by a time-piece and by the movements of the engine, so that not only the time, but autographic records at different points of the graphic records at different points of the stroke are made. Much valuable informa-tion was obtained in the deep mines on the Comstock from one of these instruments. For example, in the investigation of the ac-

Mr. Eckert, it was a cheap and effective in-strument, and he obtained very satisfactory results from it. The jar incident to most of the pump and other machinery, where it is necessary to use the chronograph, is sufficient to disarrange the instruments necessary for producing perfect regular motion, and hence it is almost, if not quite, impossible for one to obtain satisfactory results. This being the case the speaker abandoned the attempt to obtain a uniformly revolving drum and worked out the problem in an entirely new direction. The object of his work was to measure the circular velocity of the fly-wheel of a pumping engine in Lowell. That mo ularity and its amount were both to be in vestigated. The apparatus was of exceedvestigated. ingly simple construction, consisting of a 30-inch wooden wheel covered with velvet. and connected with the main shaft so as to be driven at precisely the same speed; consequently pulley and fly-wheel would both revolve at the same varying speed. Around this pulley a roll of telegraph pape was carried, fed to, and taken from the vel vet surface by means of two small rollers After having the slip of paper run about th

to procure information which is specially of this circuit and suitable electro-magnets, use to the Ordnance Department. To disprove this assertion, it is sufficient to state that the tests ordered by the Ordnance Department have been three, and cost precisely distances. As the clock kept good time and \$52.50. Besides these, I made some tests, at velocities, were of course spaced at irregular distances. As the clock kept good time and continued to do so during the experiment, as was indicated by the hands, which were not removed, the regularity of the time interval was assured. At each of the dead centers another electro-magnet and circuit was used to indicate upon the paper the times when the piston reached the ends of its stroke, thus giving all the data necessary to calcuit struction of guns. Private parties not connected with the army consider these experitures as of much interest and of great value late the variations in each revolution. This apparatus, which cost only about \$10, and was simple in the extreme, gave the means for measuring with an ordinary steel rule the time to the eight-hundredth of a second. One set of marks upon the telegraph paper gives the revolutions by themselves, while the others give the hundredths of a minute. This apparatus, which is quite simple and in-expensive, has been applied very successfully to several other engines as well as that

Professor Thurston then read his paper on the Various Efficiencies of the Steam Engine, or, perhaps, we should more correctly say, gave an illustrated abstract of the leading points which he made in it. This was substantially similar to the note in regard to it which we have already published in the columns of *The Iron Age*. The morning session was adjourned at the conclusion of

The afternoon session was devoted to a memorial session for the late Alexander Lyman Holley. Before calling upon the memorial committee for their report, Professor Thurston read Mr. Holley's last communication the late of the communication of the communication of the communication of the late of the communication of the nication to the society, his tribute to Worthington. This pleasant, keen, genial and altogether delightful analysis of character might be applied, the President said, most appropriately to Holley himself. The President spoke at the conclusion of its reading in most eulogistic terms of Mr. Holley an engineer and scientific man, and detailed at length the plans for erecting a memorial to him in Central Park, New York. The Presi-dent then called on Mr. J. C. Bayles to deliver the memorial address. He reviewed in detail the career of the deceased, both as The irresistible charm of his sunny temperment, his brilliant, genial good fellowship, his courage in daring to put confidence in the sincerity and honesty of others, his own undoubted sincerity and the universal love with which he was regarded, were all touched with which he was regarded, were all touched upon at length. The session was a most successful one, and tributes and reminiscences were contributed by a large number of speakers, among whom were Mr. Furney, of London; Senator Eckley B. Coxe, Luzerne County, Pa.; J. C. Hoadley, Boston; J. F. Holloway, Cuyahoga Steam Furnace Co.; Robert W. Hunt, Superintendent Albays and Rayssoder, Stoal Works. Furnace Co.; Robert W. Hunt, Superintendent Albany and Rensscher Steel Works; William Metcalf, of the firm of Miller, Metcalf & Parkin, Pittsburgh, Pa.; Charles T. Porter, of the Southwark Foundry and Machine Co.; Coleman Sellers, of William Sellers & Co., Philadelphia; William T. Trowbridge, professor of mechanical engineers, Columbia College; Lycurgus B. Moore, American Machinist, New York; W. Barnett LeVan, Philadelphia; William E. Partridge, Associate Editor of The Iron Age, New York. Although the meeting was a sad one, yet all who spoke had some pleasant memory, some delightful reminiscence or some kindly some delightful reminiscence or some kindly word to say of one who is gone, and whose place in the hearts of all the members has been a very large one. At the close of the session the following resolutions were pre-

ented by the Committee:

Whereas, We are called upon as a society to give expression to profound and sincere sorrow in the death of our vice-president and friend, Alexander L. Holley, Resolved, That we mourn the death of our friend as an irreparable loss to the profession

and as a sad bereavement.

and as a sad bereavement.

Resolved, That in the death of Alexander
L. Holley the country has lost an engineer
whose genius and industy have greatly added
to our industrial development, and to whom
all branches of the engineering profession are
profoundly and permanently indebted.

Resolved. That we shall ever hold Alexander Resolved, That we shall ever hold Alexander L. Holley in cherished remembrance as one whose life and example are an inspira-

sty for my having to say anything in the matter. General Smith states in the letter ton of the long pump rods, the instrument disclosed the very interesting fact that in some cases the plunger was still when the some cases the plunger was dignity to all branches of the profession, and that we remember our association with him as something which.

The cabins of the lower deck of the engine room, and the lower deck of the engine room, and the lower deck of the some cases the plunger.

The cabins of the vessel were superb, the lower deck of the engine room, and the lower deck of the profession, and that we remembe tion to high aims and worthy motives, and who gave a new dignity to all branches of of Mr. Holley, with assurances of the deep and tender sympathy we feel for them in and tender sympathy we feel for them in their bereavement, and that the Committee of Five appointed by our council, be di-rected to co-operate with the committees appointed by the other societies in further-ing the work of securing a worthy and per-manent Holley memorial, in whatever form may be deemed most appropriate and calculated to keep his work and example before

lated to keep his work and example before the rising generation of engineers.

A memorial session of the societies is to be held, and the joint convention will be held in New York at as early a date in the fall as may be practicable. Professor Raymond, in whose hands the duty of preparing the biography was placed, desires as much time as possible for his work, and the date of the meeting will be as late in the season as may be; consequently the time at which the next meeting of mechanical engineers will be held cannot be announced.

RECEPTION.

The evening was devoted to a reception, given to the members of the society by inent citizens of Philadelphia, at the Academy of Fine Arts. The Reception Committee of citizens consisted of George B. Roberts,

The visitors scattered pretty widely through
A. I. Drexel, George W. Childs, George H.
Boker, Dr. William Pepper, and Fairman
Rogers. The committee of ladies consisted
of Mrs. Frederick Graff, Mrs. Coleman

The visitors scattered pretty widely through
the works, and it was almost impossible to
follow any connected plan in seeing the
sights. One of the first objects of interest
was the new steamer Pilgrim, whose paddle-Committee of Arrangements, there were a flat-bottom boat, has a very easy model.

Coxe and Washington Jones.

Altogether, the reception was a most supported by the sponsons in the ordinary

delightful one, and was most heartily enjoyed by the members. The rooms are most admirably adapted for the purpose, while the magnificent collection of paintings added greatly to the charm of the evening. It will long be remembered as one of the most delightful assembledges by the members. delightful assemblages by the members.

THE EXCURSIONS.

Thurssday was devoted entirely to excursions to various points of interest in and about Philadelphia. At about 10 o'clock most of the members, together with invited guests and others, were on the Narrow Gauge Railway wharf, from which the start was to be It was at this wharf that a terrible boiler explosion took place a short time since, and one of the buildings on the opposite side of the street bore evidence of the destructive force of the explosion. It was badly shattered, and the corner with a portion of the roof was covered by a huge canvas, which extended nearly to the ground. The steamer arrived somewhat late. After

the party was on board and salutes ex-changed with most of the passing craft, the steamer was headed for Messrs. William Cramp & Sons, the well-known shipbuild-ers, where a landing was made. Here there were sufficient objects of inter-est to occupy a party for a whole day. A comparatively short time, however, could be spared for the visit. The visitors were shown the method of bending the frames for iron ships, and the subsequent operation of giving it the proper angle. An interest-ing machine was at the same time exhibited by which it was possible, by passing the frame through a pair of disks, to obtain any desired angle. One of the vessels on the stocks, for the coal trade upon the California coast, was especially interesting as showing improvements in construction. She has a double bottom, with tanks for water ballast. These tanks are arranged upon an improved plan. Beneath the engines and boilers the frames are put in very close, and the whole bottom forms a very strong bed.
All the surfaces in the bottom were thoroughly painted and the bottom plates comented, to prevent the action of the water upon them. The keelsons and thwart-ship partitions in the double bottom were all in place and ready for the top plates. The vessel is somewhat broad of beam, but the depth of the ballast tanks and the number of keelsons running through them will make her very stiff. At the bilges the tanks, instead of running horizontally into the outside plates, are carried down and strike the skin at right angles. The vessel was hardly in a sufficient state of advancement to enable one to judge very closely in regard to her general design, but, from what was shown, the visitors obtained a most favorable impression. The forges and machinery seen in various parts of the works were the subject of much commendation. Lying at the dock was a new steamship, the Queen of the Pacific, just receiving the finishing touches of the joiners and the final work in the engine room. This vessel has a beautiful model, and although of comparatively light burden, is likely to be extremely fast, the engines having some 3000 horse-power, with ample boiler room. The engines themselves were the objects of considerable curiosity, having many features of novelty. They cenmany features of novelty. They consist of a pair of high and low-pressure cylinders with piston valves. The high-pressare engine has a single valve with the cutoff working inside the main valve. The low-pressure cylinder is supplied from the reservoir by two piston valves driven from a yoke. The object of this construction is to get the cylinders closer to each other. The engine is controlled by a Westinghouse governor attached directly to the link. This method of controlling the speed has many advantages over those in which the governor is attached to the throttle valve, as it has only the momentum of the engine to contend with, while the throttle-valve method gives the engine all the steam that may be in the pipes between the throttle and cylinder, as well as that in the reservoir. It is intended to drive the engines at 80 revolutions, and, if possible, at 90. All the bilge pipes between the compartments and all of the valves in these pipes are brought into the engine-room, thus enabling the engineer, wthout leaving the engine-room, to trol all the valves leading to the ferent compartments, and to pump from any one at pleasure. The engine is pro-vided with an independent centrifugal cirthem. The staterooms themselves are unusual size, and the berths, which a adjustable, are very wide. Electric lights and electric bells are used throughout and electric the ship. The smoking, room, which was in an advanced condition, will be most elegantly finished in mahogony. Altogether, the joiner work is said to be the handsomest ever put on board a steamship. As time was pressing, the visitors were scarcely allowed to more than glance at the more interesting features and were hurried on board of the steamer. After taking a look at the new elevator and its wharf from the steamer's deck, the bow was turned down the river toward League Island Navy Yard. During the trip to that point the time was very pleasantly spent construction were discussed. At League Island the speed of the boat was reduced omit stopping there, and the party went directly to John Roach's works at Chester. Here the mast-shears and boilers of ocean steamers were the first objects of interest.

On the way up a collation was served, which was heartly enjoyed by the excursionists. The trip was enlivened a part of the way by a lively race between a new tug and the Wilmington, the excursion steamer, in which the latter proved herself not only a comfortable, but a fast boat, distancing her competitor after a very sharp brush. On arrival at the wharf a considerable portion of the party decided to look at some of the engineering works of the city. Their first visit was the Baldwin Locomotive Works. After looking at the elegant offices, Works. After looking at the elegant offices, inspecting the drawing-room with some of its notable drawings, the party was taken, under the direction of Mr. Barnet Le Van, through the works themselves. The assembling shop was a point of much interest, as several of the Wooton fire-box locomotives were being put together, and an opportunity was given for seeing the internal construction of these somewhat remarkable boilers. The visitors were then shown through some of the most interesting parts of the works. The visitors were then shown through some of the most interesting parts of the works, among which was the boiler and smiths' shop and the electric light engine-room. From the Baldwin Works the party proceeded to William Sellers & Co., where they were shown the more interesting features of the establishment, among which was a little Porter-Allen engine seemingly hardly large. of the establishment, among which was a little Porter-Allen engine, seemingly hardly large enough to develop 20 horse-power, yet was actually doing 60 horse-power, running at a very high rate of speed. The number of revolutions we do not now call to mind. Just before closing time the party found themselves at the works of A. Whitney & Sons. Here a peculiarly interesting trial was made of a machine for boring carwheels. Two cuts were taken through the was made of a machine for boring car-wheels. Two cuts were taken through the hub and the hub faced off in 5 minutes and 15 seconds, which time included chang-ing and adjusting the tools. This was a Master Car Builders' standard wheel, 434 inches diameter in the axle seat and 7 inches in depth. Even this time would probably be in depth. Even this time would probably be shortened in regular work.
(To be Continued.)

WASHINGTON NOTES.

(From Our Own Correspondent.) WASHINGTON, D. C., April 26, 1882.

There is considerable probability that the There is considerable probability that the end of the Tariff Commission discussion will not be reached during the present week. There is a desire on the part of the Committee on Elections, supported by the general sentiment of the House, to dispose of several of the more important election cases without further delay, notably the famous Lynch-Chalmers case, of the "Shoestring" District of Mississipini. These will occupy Lynch-Chalmers case, of the "Shoestring" bistrict of Mississippi. These will occupy several days. It is also intimated that at least four of the members of the Committee on Ways and Means have expressed a desire to be heard after the general debate has been concluded. These gentlemen are Judge Kelley, chairman of the committee, ex-Speaker Randall, and Representatives Tucker, of Virginia, and Morrison, of Illinois. The last two are pronounced free traders and will oppose the bill, demanding that not only direct action should be taken by the committee, but that it should be done immediately. Judge Kelley and ex-Speaker immediately. Judge Kelley and ex-Speaker Randall are in favor of the bill, considering it as not practicable to do justice to the subject in the remaining days of the present session, and that a comprehensive report of facts collected by a commission would at least add to the information of the commit-

least add to the information of the commit-tee on the important subject of revision.

The members of the Committee on Ways and Means are beginning to talk quite freely on the subject of a "little" tariff bill. At an informal conference recently, it was practically decided to prepare a bill as pro-posed earlier in the session, to include the provisions in the McKinley bill, to adjust the duties on iron and steel and other articles. the duties on iron and steel and other articles which seem to demand immediate attention.

There is also a disposition to consider the question of free raw materials. There are some members of the committee who favor a liberal policy toward raw material, provided it would not interfere with home industry in similar products. Judge Kelley has already expressed himself in favor of extending the free list in raw materials, and preserving the duties on manufactured articles at their present figure, or to so adjust them as to meet the requirements of new forms of manufactures not know at the time of the enactment of the present tariff. The latter fact is the primary occasion of all the confusion in the proper classification of this of class of articles, and encourages the attempts. under cover of new commercial terms, to evade the tariff. The greatest danger to a little tariff bill will be the efforts to saddle upon it a number of articles other than the to be named in the committee bill, and whi would be likely to weigh it down and destroy

it altogether. SECOND REARING ON THE SIEMENS PATENTS. The second hearing before the Committee on Patents, in the Siemens regenerative gas furnace patent extension, took place on Thursday morning last, and to-morrow the hearing will be continued and probably closed. Mr. Charles S. Whitman, attorney. of this city, appeared, as at first meeting, in behalf of Messrs. Richmond and Potts, of and many interesting points of mechanical Philadelphia; the agents of the Messrs. construction were discussed. At League Siemens and Messrs. Bakewell and Kerr, and Island the speed of the boat was reduced Mr. Geo. H. Christy, of Pittsburgh; as attorand visitors had an opportunity of seeing the old monitors anchored there. In order to return to the city it was found necessary to omit stopping there, and the party went directly to John Roach's works at Chester. country who have paid large sums of money for the right to use the Siemens gas fur-naces, and who, it is claimed, employ a greater number of them than are in works of those who are remonstrating solders. The committee of ladies consisted sights. One of the first objects of interest was the new steamer Pilgrim, whose paddlesellers, Mrs. Joseph Wilson, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. S. J. McCloud and Mrs. S. W. Solders, Mrs. Solders, mittee was taken up by Mr. Whitman in be half of, and by Mr. William Bakewell in oppo



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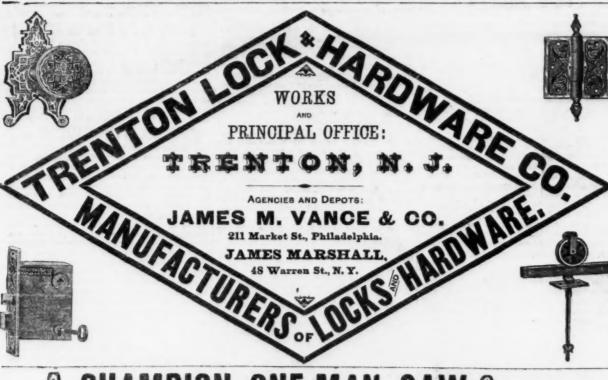
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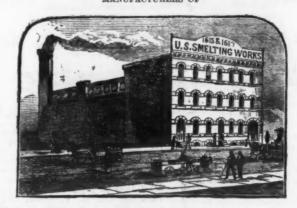
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and the appliances required to aid in its suc-essand advancement, would result in greater advantage to this important industry than the aggregate sum which would be paid for the use of the furnaces. He expressed his willingness to pay for such additional gas furnaces as his firm might require, and gave it as his belief that those who have already paid large sums of money for the use of the patents are entitled to some consideration and protection. He estimates that the and protection. He estimates that the claim made by the patentees, that a saving of \$25,000,000 in fuel and saving on loss by of \$25,000,000 in fuel and saving on loss by oxidation has been secured to the manufacturers of this country, is greatly underrated, and as it is shown that the patentees have netted but a little over \$250,000, they should be encouraged by being allowed to continue receiving such additional income from the invention as will encourage them to invent further improvements and account as here. further improvements and proceed, as herethey are qualified to take charge of their furnaces. He said that it would be difficult to estimate the great advantages this country has gained through the graduating of young men, brought up, through the instru-mentality of the Messrs. Siemens, to the knowledge of taking charge of these regen-erative gas furnaces. He declared that the motives actuating him in advocating the extension of the patents were not at all selfish, but were influenced by the desire to secure for the manufacturing interests of the country a continuance of Dr. C. William Siemens's assistance in the development of the iron and steel industries, believing as he does that all the additional receipts that may be secured by the Messrs. Siemens for the be secured by the Messrs. Siemens for the use of their gas furnaces will be refunded more than tenfold by the development of the great industries their skill has already so greatly advanced. He said it is well known that the Messrs. Siemens's inventions have not been so gratefully appreciated on the other side of the Atlantic as they deserved to be, and therefore we on this side should do all in our power to encourage these great scientists to expend their energies with us, and that when we know, as many of our iron and steel manufacturers do, the Represented.

Represented to would be to the country, in case success should attend the efforts to manufacture iron direct from the ore, by the Siemens' regenerative gas rotator principle, the full accomplishment of which would far more than compensate the iron and steel interests for all that might be collected for the use of the patents.

their agents representing them in this country, whose great knowledge of metallurgy and the appliances required to aid in its suc-

use of the patents.

The introduction of the Siemens regeneraway in this country as applied to the manufacture of glass. It is well known that owing to the expiration of the Siemens patents in England, Dr. C. William Siemens has not given continued attention to improve-ments calculated to result in great improve-ments in furnaces needed for the full success of this industry. The Messrs. Siemens, it is further claimed, have expressed a great de-sire to be encouraged in efforts to introduce various improvements in the construction of furnaces suited to glass melting, and their friends say should they secure an extension of their patents the manufacture of glass in this country would receive great advantages and a decided impetus.

\$2,168,050 6,548,000

The Secretary of the Treasury expected to connection with that already briefed.

facture of Bessemer steel know how difficult it is to obtain with regularity the extra soft steel employed for boilers in the French navy. Such metal appears only to be made in the Martin furnace, and even then it is mecessary to employ picked material in its manufacture. But by the new Bessemer dephosphorizing (Thomas-Gilchrist) process, and also to secure the services of such skilled exports as may be necessary to carry on the experiments.

And your memorialists will ever pray, &c. steel of an extraordinary degree of softness can be obtained with the greatest facility, and at a price less than that of ordinary steel.

expressing the belief that the iron and steel industries of the country would be benefited by having the control of the furnaces remain during the coming seven years under the direction of the Messrs. Siemens and their agents representing them in this countries the high price of soft steel their agents representing them in this countries are the probabilities. has been the great obstacle which has prevented many people from employing it in construction. But by this new process soft metal can be produced at a less price than ordinary (puddled) iron; there is, therefore, no longer any reason (apart from routine) why steel should not be employed in all cases in place of iron, to which it is so much superior in strength."

United States Tests of Materials.

The following is the memorial to Congress concerning the appointment of a commission to test materials used in construction, to which signatures are now being solicited: The undersigned, members of the Ameri-

The undersigned, members of the American Society of Mechanical Engineers and other citizens, respectfully represent that under the authority given by an act of Congress, approved March 3, 1875, the President of the United States appointed a board to test iron, steel and other metals. That this board made a large number of chemical, physical and mechanical experiments, and built a testing machine which has no equal; but that its term of office expired, by limitation of law, June 30, 1870.

equal; but that its term of office expired, by limitation of law, June 30, 1879.

That the work of this board was of the greatest value to all the engineering and constructive sciences, but that its term of office was so very short that a large amount of work of vital importance, both to the United States Government and to private citizens, yet remains to be done.

That it is of the greatest importance, both to the consumers of all materials used in construction, as well as for the public health

construction, as well as for the public health and safety, that these materials should be used to give the greatest amount of strength consistent with the most economical use of the metals, for which purpose it is necessary that all the materials used in construction

should be tested.

That the tests heretofore made on these materials have been for the most part made on specimens of diminished area, and under such conditions that the tests are not com-

parable.

That very many of the tests, which were made the basis of the formulæ upon which engineers rely for their calculations, have been made in material manufactured under different conditions from those which exist in this country, and that this fact, together with that above mentioned, of the tests hav-ing been made on specimens of diminished area, make their conclusions doubtful.

That the new metallurgical processes which have been invented in the past 25 years produce metals of a quality altogether dissimilar to those formerly tested, and that it is most desirable that information should be had relative to qualities of metal and materials used in construction, which were almost unknown when the former tests vere made.

That the tables of factors of safety now in

general use were constructed under condi-tions which no longer exist, and that it is for the interest of the United States Govern-ment—which is the largest consumer of metals and constructive materials in this country—to have these factors redetermined, as the result will undoubtedly be, that a diminished quantity of material will be used in a much safer form.

That, while it is undoubtedly for the inter-

ests of corporations and private manufac-turers to make these same tests, it would be against their interests to publish them, when made, and that the constant repetition of the same experiments would consume a large amount of capital, but would add nothing to the general knowledge of these mate-rials, and that the absence of this knowledge has undoubtedly caused not only much de-struction of property, but also the loss of

The prayer of your memorialists therefore is, that your honorable body will empower the President of the United States to appoint dispose of the forged axle case on last Saturday, and had the papers before him, but owing to interruptions was compelled to lay them aside. He expects, however, to be able to reach the case again within a few days. Some new information has been substituted by the property of the case again within a few days. Some new information has been substituted by the property of machines the redded investigations and tests upon machines. mitted which will have to be considered in terials used in the manufacture of machines, buildings, bridges, and other constructions, to deduce such rules from them as will lead to The Future of Iron.—A well-known the greater safety of the structures, and economy in the use of the materials of which iron, recently made the following remarks, which deserve some attention as representing the views of a practical man on this subter the pray that such appropriations may be made by your honorable body as to enable ject: "Those who are occupied in the manufacture of Bessemer steel know how difficult the experiments on full-sized parts that the tests and experiments on full-sized parts of structures as well ead to deduce such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced such rules from them as will lead to be deduced as from them as will lead to be deduced such rules from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as will lead to be deduced as from them as a structure of them as from them as will lead to be ded

Speaking of the recent decline in steel rails, comebody tells a good story about Jay Gould, at a price less than that of ordinary steel. By heating a pig containing from 1.5 to 2 per cent. of manganese we obtain, after the decarbonization and dephosphorization is finished, a non-oxidized metal, which does not contain more than traces of carbon or manganese. If it is desired that the steel should be entirely free from any tendency to red-shortness, we may add from 0.25 to 0.50 per cent. of a rich ferromanganese to remove any traces of oxygenization. The only precaution to be taken to obtain a soft steel is to choose pig (if direct working be employed) which contains sufficient manganese.

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ESTABLISHED 1839.







We discarded the old Nut attachment nearly two years ago and applied the better device we are now using (covered by patent) for preventing the back thrust of the ferrule. The superiority of this invention over all others has been fully established by practical test. By reference to above cut (sectional view) our improved method will be readily understood.

We make the shank of our wrench about double the size of those in other screw wrenches, leaving it full size, and strength by not cutting a thread.

Our Ferrules are made with two bearings, both fitting the shank.

An Iron Tube of sufficient strength to resist any pressure that may be put upon it, is fitted to the shank, one end resting against the lower bearing in the ferrule, the other against the enlarged Tip or Nut at end of handle. all rigidly held in position, the wooden handle made to fit exactly over the Iron Tube, forming a solid combination of Wood and Iron, preventing any possible displacement of the ferrule from hard usage. All our Wrenches are made with straight Bar, full size, the extreme length. The Jaw is made with ribs on the inside, running full length of the Jaw, which, in connection with the projecting sides, both secured by patent, are fully equal to any strain the Bar may be subjected to. We have also enlarged the barrel of the Jaw to take a larger and longer screw, enabling our Wrench to accommodate a larger Nut than any other manufactured. We make our goods of the very best material, thoroughly case-harden, and warrant every Wrench.

Manufactory at WORCESTER, MASS.

Warehouse, 97 Chambers and 81 Reade Streets, NEW YORK.

& McCARTY, Sole Agents. DURRIE

CHAPLIN'S PATENT

TRY SQUARE AND MITRE,



SPIRIT LEVEL AND

PLUMB.

A CARD.

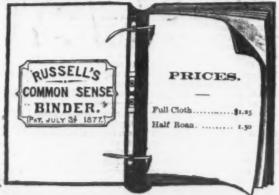
arguments and decision of Judge Lowell. The aforesaid pretended inventor has recently commanded as counter suit against us, apparently for the express purpose of trying to frighten dealers by threat o suit for damages from handling the Chaplin Tool. All we have to say to the trade in this matter a present is, that we shall firmly maintain whatever rights the Courts may establish in our behalf, and the shall protect and defend all parties whomsoever in the use and sale of the Chaplin Tool manufactured that the country of the chaples of the chapter of the c

STANDARD TOOL CO.,

ATHOL, MASS.

SOLE MANUFACTURERS AND OWNERS OF PATENT.

SELF-BINDERS FOR THE IRON AGE.



We are now prepared to supply our subscribers with an excellent self-binder for their papers, a cut of which is annexed. We call attention to the low prices at which it is offered.

Address all orders to DAVID WILLIAMS, 83 Reade Street, NEW YORK.

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BUFFALO, N. Y.,

H.B. SMITH MACHINE CO. 925 MARKET ST. PHILADELPHIA CELEBRATED WOOD WORKING

For Car Shops, Planing Mills, &c. Also Machinery for all purposes. Correspond with us

EXPERT E. P. ROBBINS, M. E., Mechanical, Patent and Inventor Expert,

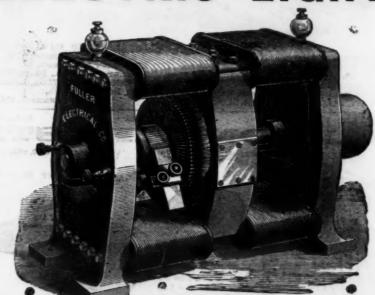
CINCINNATI, OHIO. For particulars see issue of M

BUFFALO SCALE CO., BUFFALO, N. Y., Manufacturers of

H. H. Track Scales, Hay Scales, Coal Scales, Grain Scales, Platform Scales, Counter Scales, &c. Send for price list, stating what you want

TELESCOPE TUBES. Fine Mandrel drawn Tubes, from Brass er German Sliver. Tubes for sliding one within the other made to order. Manufactured by ROBT. T. DEA-KIN & CO., 500 N. 12th St., Philadelphia, makers of the American Improved Brass Garden Syringe.

ELECTRIC LIGHT.



THE PULLER ELECTRICAL COMPANY, having perfected their system of Electric Lighting, are prepared to furnish the Improved Gramme Dynamo Electric Machines and Electric Lamps, either for single lights or for from 2 to 20 lights in one circuit.

This apparatus is unexcelled for durability, steadiness of light and economy of power, and requires less attention than any other. For price list and further particulars apply to

THE FULLER ELECTRICAL COMPANY, 44 East Fourteenth Street, NEW YORK.



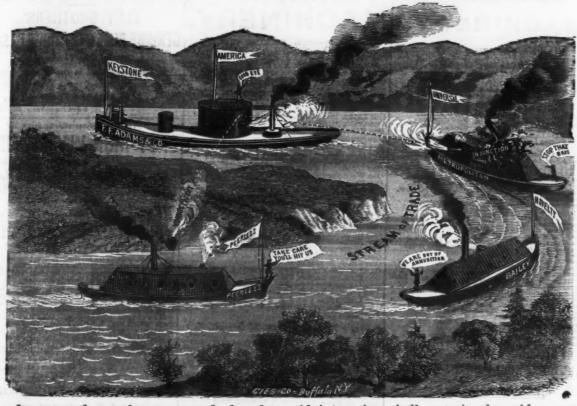
Timber Well Seasoned, Well Ironed, and Substantially Framed. Please send for Prices and Sample Orders. A trial will secure your custom. Price Lists of Scales and Testing Machines furnished free upon application.

Store, 4th above Chestnut, Works, 9th above Master,

PHILA.

April 27, 1882.

HOC SIGNO VINCES.



"Important Correction to a Card to the Wringer Trade, Issued by F. F. Adams & Co., Limited, in last week's Iron Age. It should have read 'We Have Met the Enemy and we are Theirs."

The above is the heading of an article published in last week's paper in answer to our statement of facts in *The Iron Age*, on page 27, under date of April 13th. If suing parties and asking for an injunction and OBTAINING IT is putting us in the hands of our enemies, we don't understand the meaning of words. WE DID SUE the parties who signed the circular, and asked the Court to restrain them, and also asked the Court to

grant the following prayer:

"And that the respondents may answer the premises, your orator prays that your Honors may grant a writ of injunction issuing from and under the seal of this Honorable Court, enjoining and restraining the said respondents from further notifying or threatening the agents or customers of your orators, or advertising, or publishing generally to or among the trade any threat or notice in any way affecting any of the wringers manufactured and sold by your orator until the said respondents shall have established in a proper court their right to said patents, jointly or severally, and also the VALIDITY of said patents, or that the said wringers made by your orator, or sold by its agents or customers, are in fact infringements on said patents, and that said injunction extend to and include not only the companies defendant but also their officers, agents, factors, servants,

workmen and employees; and also that said injunction shall restrain the said respondents, or either of them, from suing any of the customers or agents of the said complainant, and that not more than one suit be brought on any one of said patents, until the same has been declared good

and valid, and that the goods of the complainant are infringements upon the same. The above prayer was granted without reservation. The defendants attempted to defend by stating that the reason they sent out their circulars was that they could not obtain evidence on which to sue us; that they could not find any one who was willing to state that they bought the wringer called the "America" from us; this was their excuse. But as we stated we had sold thousands of the wringers, the Judge said if we would acknowledge that the wringer that was then on exhibition in Court was made by us it would be used to compelled to comply with this order." "ORDER!!!" THERE WAS NO SUCH "ORDER;" indeed, it did not require more than a suggestion from the Judge. We had no hesitation in acknowledging that we made and sold the wringer called the "America," in fact, we had so stated in our bill, and we are yet proud to admit that we have made and sold many thousands of said wringer. It will not be necessary for any court to order us, or for us to be "compelled" to acknowledge this fact. Our opponents must be hard pressed not to find something more tangible to offer than the silly excuse that we were "compelled" to find something more tangible to offer than the silly excuse that we wade it, and had also sold thousands of them.

We expect they will see us and we expect to successfully defend said suit and are received to the amount of \$50,000 to pay all damages in case they obtain a degree against dence, so they could sue us. If they had taken the trouble to write us for one we would have gladly sent them a wringer and admitted we made it, and had also sold thousands of them. We expect they will sue us, and we expect to successfully defend said suit, and are ready to give bonds to the amount of \$50,000 to pay all damages in case they obtain a decree against us. They state in last week's issue of this paper that they have commenced two suits for infringements. It is rather astonishing that we have not, as yet, been apprised of it, as we volunteered to accept service and save them marshal's fees any time they wanted to sue. We wish it distinctly understood by our customers that if they sue more than once on each claim, as prayed for in the bill, we shall pursue our remedy under the injunction. We shall meet and defend any suit they may bring against us or any one of our customers, and if any one of our customers wish us to give bonds to indemnify them against loss, we shall be very glad to do so.

We would again call attention to our advertisement in The Iron Age of the 13th of April, on page 27. We would especially have you remember that we sued the parties and obtained all we asked for, and they will not care to sue our customers but once, as we shall immediately insist on their arrest. We are the ones they SHOULD sue, if any one. All will agree with us on this point. We are the only ones they MUST sue, if any one. This the bill sets forth clearly.

F. F. ADAMS & CO., LIMITED, Erie, Pa., "KEYSTONE," "AMERICA," and all kinds of Wooden Frame and Iron Frame Wringers; also Bench Wringers. Washing Machines. &c.. &c.

IMPROVED AIR COMPRESSOR! Grant Fan Mill & Cradle Co.



MANUFACTURED BY THE

MORRIS COUNTY MACHINE & IRON Co.

DOVER, N. J. Has positive moving Rotary Valves. Will give better results than any compressor built at the present time, which can be authenticated by parties now using them. They are also used to drive pumps in deep mines. With forty pounds of steam will give fifty pounds air pressure. Send for descriptive circular.

ECONOMY!



Economy Combined with Ornament and Durability.

SIMPLE IN CONSTRUCTION AND NOVEL SELLS AT SIGHT.

Directions.—To fill the cylinder, push the latch-bar from one of the uprights—it will swing out like a gate—slip the cylinder off to fill it with matches. To get a match, revolve the cylinder slow and let it rest on the top center and let go, a match will be found on the bar.

For State rights apply to Lock Box 82, New Orleans, f.a.

GREATEST ROCK BREAKER ON EARTH.

CAPACITY A TON A MINUTE. DON'T FORGET IT

Guaranteed to do Double the Work of any other or Money Refunded. SEND FOR CIRCULARS,

ALSO, Engines, Boilers, Stamp Mills and Mining Machinery.

GATES & SCOVILLE IRON WORKS.

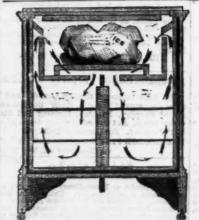
BLAKE'S

Challenge Rock Breakers. Patented Nov. 18, 1879. See The Iron Age first issue of the

PRICES ON APPLICATION. E. M. RICHARDSON, Waltham, Mass.

Grant's Grain, Coffee, Rice, Cochineal





GEORGE N. PIERCE, BUFFALO, N. Y.,

Manufacturer of Bird Cages & Refrigerators

Send for Illustrated Catalogue.
The following houses will supply the trade at fac tory prices:
THE CHICAGO STAMPING CO., Chicago, Ill.
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CIN. TIN AND JAPAN CO., Cincinnati. Ohio.
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BEWARE OF INFRINGEMENTS

SHEDD'S STEEL SPRING WIRE Blind Fasts.



Merchant. Orders in all lines receive prompt and careful

Cuyahoga Falls, Ohio. Tinned **Belt Rivets**

Burrs a Specialty.

EASTERN AGENTS,
Alford, Ward, Davenport & Co.



BOILERS. in stock BOILERS. A large assortment constantly on hand of Hortal, Vertical and Locomotive Tubular Boliers fr. 66. H., and larger to order. Engines all Pumps. Steam and Hand Brick and Mortar H. Latho Drills, Milliug Machines, Boller Test Pumps **NEW ENGLAND MACHINERY DEPOT** 308 North Third St., Philadelphia, Pa.

MEDFORD FANCY GOODS CO., 96 Duane Street, New York.



MANUFACTURERS Dog Collars, Locks, Leads
AND BELLS.

The largest variety in the world, Send for idustrated
Catalogue.

JOSEPH WAITZFELDER, 6 Cortlandt Street, N. Y. Import, Export and Commission

Correspondence solicited,



The Che t and Best. Price. \$19. LITTLE GIANT MFG. CO., Send for circular. Milliport, Chemung Co., N. Y.

SECURITY KEY RING.



EVERY RING GUARANTEED.

JOHN W. JOCHIM, Ishpeming, Mich.



For Bars, Plates, Sheets & Rods of Double Extra Quality Iron. NONE BUT CHOICEST MATERIAL USED.

Addre CANTON BLOOMARY CO., Collinsville, Conn.





Special Notices.

E. BISSELL & CO. Wholesale Hardware Auctioneers.

83 Chambers and 65 Reade Sts., N. Y. Sales held weekly for the trade. Consignment

For Sale.

The Machinery, entire Furnaces, Tools, &c., of a Plate and Sheet Mill. Will be sold very cheap to responsible parties. Terms, one-third cash; balance partial payments, and long time.

Address
74 Washington Street, Chicago, Ill.

Machinery For Sale.

Hydraulic Presses and Pumps suitable for lin-seed or cotton seed oil. Round and Square Tanks. Horizontal Engines, 22 x 48, and 16 x 30. Portable Engine and Boiler, 12 horse. Two 500-gallon Cast-Iron Kettles. H. C. BRIGGS, 494 Water St., New York.

For Sale.

Presses, Dies and Tools for Fruit Cans, Tinners &c. Address NIAGARA STAMPING & TOOL CO.

Wanted.

A first-class Mechanical Editor, at once, for the Cleveland Trade Review and Western Machinist. When writing please state what experience and paper last connected with, and what salary expected. Also give references.

R. S. EVANG R. S. EVANS, Manager.

BLOOMS AND MILL BARS,

Made of charcoal iron, and specially suited for manufacture of sheets, may be shipped from any port on Baltic Sea. Apply to Z. E., 3144, Care Rudolf Mosse

Berlin, S. W., Germany Wanted Immediately.

Three first-class spike cutters to work on Belknap Machines.

> SOUTH TREDEGAR IRON CO., Chattanooga, Tenn.

FOR SALE-Immediate delivery, the following second-hand steam hammers in first-class

order.
One 2000 lb, by Wm. Sellers & Co.
One 2000 lb, by Wm. Sellers & Co.
One 2000 lb, by A. Box & Co.
One 2000 lb, by A. Box & Co.
Representing The Long & Allstatter Co., Punching and Shearing Machinery; Morgan, Williams & Co., St am Hammers, in connection with a general line of first-class machine tools.

NILES TOOL WORKS,
22 South 6th St., Palladelphia.

Wanted.

A practical machinist to run a foundry and planing mill by water power, at Huntsville, Cumberland County, Pa. Special inducements to a man with \$2000 to \$5000 of capital to invest in the business. Address

DAVID LEFEVER, Ernest P. O., Cumberland Co., Pa

Gray Iron Castings.

John Keppleman, Reading, Pa., herewith gives notice that he has opened a jobbing Foundry, and is ready to receive orders for all kinds of Gray Iron Castings. Please address JOHN KEPPLEMAN, Cor. 2nd and Court Sts., Reading, Pa.

Wanted.

A second-hand Rail Shear in good condition. Address P. O. BOX 802,

Pittsburgh, Pa. Wanted.

By a Manufacturing and Importing House of Cut lery, a Salesman on commission for each South ern and Western Trade. Address J. G. A.

Office of The Iron Age, 220 S. 4th st., Phila., Pa.

Wanted.

Thoroughly competent Merchant Roller for 18 and 18-inch Trains. Apply to TOOKE STRAKER, Manager,

Boonton Rolling Mills, Boonton, N. J.

WANTED.—A position as Hammerman, by man experienced in all kinds of Locomotive Marine and General Forgings in Steel. Address P. TINDEL, 4436 Lackawanna St., Frankford, Philadelphia, Pa.

Wanted.

A Partner with \$5000 to \$10,000 in a Foundry and Machine Business, established in 1824. For particulars, inquire of I. H. COLLER,

Poughkeepsie, N. Y.

Wanted.

All manufacturers to know that the HOLT MANUFACTURING CO., of Cleveland, Obio, will, on and after April 1, sell the celebrated HOLT PORTABLE FORES from 8:0 upward. After thirteen years' experience in the Forge business, they think best to discontinue the agent system and sell direct to consumer. Write for circular of particulars and photographs of machines.

Address HOLT MANUFACTURING CO., Cleveland, Ohio.

DRILL PRESS FOR SALE.—A new Upright Power Drill Press, swings 22 inches, back geared, quick return motion, stee spindle and shaft, superior Ruish; weight, 1100; hight, o feet, price, \$21.0, PEERLESS FUNCH AND SHEAR CO.

A SITUATION WANTED AS HARDWARE CLERK, &c. Address G. L. E., Care D. C. Lank, 76 Broad St., New York.

A MAN of twenty-six, fully competent, desires a situation in the Hardware trade. Would trave! Have had full charge of a large retail store, and am a worker.

BYUN BESSE

IRVIN BESSE, Peabody, Mass.

Special Notices.

NEW IRON WORKING MACHINERY.

ENGINE LATHES. Two si in, swing, triple-geared (bed made to suith Fitchburg June delivery. Cne 22 in, swing x 14 ft. bed. Fitchburg. April del. One 20 in, swing x 14 ft. bed. Fitchburg. April del. One 22 in, swing, x 13 or 14 ft. bed. Gray. April del. Two 15 in, x 10 ft. bed. Blair. On hand, Two 15 in, x 8 ft. bed Fitchburg. June delivery. PULANERS.

Two 16 in. x 8 ft, bed Fitchburg, June delivery.

PLANERS.

One 36 in. x 36 in. x 12 ft. Fitchburg. On hand.
One 35 in. x 25 in. x 8 ft. Fitchburg. On hand.
One 30 in. x 10 ft. Fitchburg. On hand.
One 30 in. x 50 in. x 10 ft. (English make). On hand.
One 18 x 18 x 4 ft. Gould. On hand.
One 18 x 18 x 4 ft. Gould. On hand.
Two 10 in. stroke shaper. Fitchburg. On hand.
Two 10 in. stroke shaper. Fitchburg. June delivery.

DRILL PRESSES. DRILL PRESSES.

DRILL PRESSES.

One & in. radial drill (extra heavy) double-geared, self-feed, radial arm raises and lowers by power, planed and slotted bed-plate wish portable table. First-class English make. Weight, 4 tons. April One & in. class English make. Weight, 4 tons. April One & in. additional drill, self-feed, double gearing and and planed bed. Betts Machine Co. On Md. Two co. that wing, back-geared. Prentice. May del'ry. Two co. in. swing, back-geared. Pitchburg. On hand. Three is in. swing. Fitchburg. On hand.

KELLY & LUDWIG, 49 & 51 N. 7 St., Philadelphia, Pa.

For Sale.

Palo Alto Rolling Mills,

Near Pottsville, Pa., ON THE MAIN LINE OF THE POTTSVILLE

AND READING RAILROAD. mills are in good repair, and can b tarted in two days' time.
Rolls for T-Rails 12 to 70 lbs. per yard, and for treet Rails 18 to 70 lbs. per yard.
Guide Mill Train for Merchant Iron ¼ to 1 inch.
Rolls for Merchant Bar, round and square, up to

Additions.

Number of Puddling Furnaces in both mills, 30; Heating Furnaces, 9; all with boilers attached. Also Foundry, Machine Shop, Blacksmith Shops, Iron House, Roll House, Carpenter and Pattern Shops, Stables, handsome Dwelling for Superintendent, 11 Tenement Houses, a Brick Office, and ample grounds for stock and cinder.

For further particulars address

Messrs. LEE & McCAMANT, Extrs., Pottsville, Pa.

THOS. F. WRIGHT, 1804 Race St., Philadelphia, Pa HUGH W. ADAMS, 56 Pine St., New York.

Machinery For Sale. (ALL NEW) One 20-in. Power Drill Press. Three 20-in. Davis Power Drill Presses. St. Hand Blacksmith Drills. Three Gear Cutting Attachments for Lathes. Twelve Assorted Chucks, 4 in, to 18 in. One Bolt Cutter, 44 in. to 14 in. Three Barnes Lathes. Six Hand Shearing and Punching Machines. Two Sturtevant Blowers. Also, one second-hand Horizontal Engine, 13 x 24. One second-hand Horizontal Engine 10 x 16. Jackson & TYLER. 16 and 18 S. Howard S., Baltimore.

For Sale.

One pair good, sound CHILLED ROLLS, 25 60 in., made by A. Garrison & Co., Pittsbury to in., made of a. do in., with ar s-inch also a HEATER, is in. x to in., with ar s-inch abea. Been used some. Will sell cheap, CHAS. HUSTON & SONS, Coatesville, Chester County, Pa.

For Sale.

One Burdick Header, Small Forged Bolts, sec-nd-hand. nd-hand. Two Lowell Forged Headers. One Heavy Tire Blank Upsetter, very strong, hapin Maker; Head % x 6 in., open dies. One Double Punch and Shears, Alistatter No. 7,

second-hand.
One Geared Cam Press, Table 24 x 18 in., used for cutting out Paper Collars.
Two Key Seat Cutters, Screw and Nut Feed.
One Double-Bot Cutter, Smith maker, little used.
Also our full line of National Machinery Co.'s manufactures: Hot-pressed and Hot-forged Nut Machines; Bolt Cutters, National Head, 3 sizes; Double-Bot Cutters, Tappers, Hesders, Washers.
Rivet, Track Bolt, Pointers, Burrers, and full out-fits for Bolt and Nut manufacturers. Address NATIONAL MACHINERY CO., Cleveland, Ohio, the only Specialists in the United States.

For Sale.

Second-hand

DROPS and LIFTERS.

BEECHER & PECK.

Lock Box 122, New Haven, Conn

For Sale.

One B. F. Sturtevent No. 7 Noiseless Fan Blower, in good order; used a short time for blowing heating and puddling furnaces. Apply to

YORK ROLLING MILLS. York, Pa.

BRICK FACTORY FOR SALE or RENT. THE PREMISES CONSIST OF A BRICK FACtory, a Storehouse, a Packing Building and Office,
with about two acres of land, located a short distance from the post office, railroad depots, and
river landing, in this city. The tactory contains a
sixty-horse engine, with two large flue boilers,
with shafting, steam heating, &c.
The property can be had on the most favorable
terms. Apply to
Middletown, Conn., April, 1882.

For Sale.

A Hardware and General Housefurnishing Store, situated in a lively mining town in Pennsylvania, and doing a good and safe business. Stock running from \$12,000 to \$15,000; sales over \$40,000; only hardware store is the place; reason for selling, going away. Address for further information,

BOX F.
Office of The Iron Age, \$3 Reade St.. New York.

Car Works for Sale.

Present output about five cars daily. Either personal interview, or full particulars may be obtained, by addressing the owner, X. Y. Z., Office of The Iron Age, 83 Reade St., New York.

For Sale.

Two Corliss Condensing Beam Engines,

THE HARTFORD ENGINEERING CO., Hartford Conn.

WANTED.—A young man wants a position in a first-class Hardware establishment as Traveling Salesman, with ten years' experience in the General Hardware business, and has some experience on the road. Rest of reference.

Address P. O. BOX 93, Lewistown, Pa.

Special Notices.

Second Hand and New

MACHINERY.

MARCH 29, 1882.

One Car Axie Lathe. Hewes & Phillips. New. One Engine Lathe, \$6 in. x : \$76 ft. A: order. One Engine Lathe, \$6 in. x : \$76 ft. A: order. One Engine Lathe, \$4 in. x : \$7 ft. Fifield. New. One Engine Lathe, \$4 in. x : \$7 ft. Fifield. New. One Engine Lathe, \$1 in. x : \$7 ft. Xiv Haven. One Engine Lathe, \$1 in. x : \$7 ft. Xiv Haven. One Engine Lathe, \$1 in. x : \$7 ft. Ames. New. One Engine Lathe, \$1 in. x : \$7 ft. Ames. New. One Engine Lathes, \$1 in. x : \$7 ft. Jones & Lather Charles Lathes, \$1 in. x : \$7 ft. Jones & Lather Charles Lathes, \$1 in. x : \$7 ft. Jones & Lather Charles Lather C

ne Engline Lathes, 10 in. x 8 ft. Ames. Now.
Ince Engline Lathes, 10 in. x 9 ft. Jones & Lamson.
New.
Engline Lathes, 15 in. x 9 ft. Good order.
New Engline Lathes, 16 in. x 8 ft. Good order.
New Engline Lathes, 16 in. x 8 ft. Good order.
New Engline Lathes, 16 in. x 8 ft. Fix 16 ft.
New Engline Lathes, 16 in. x 6 ft. 7 ft. x 8 ft. Ames. New.
New Engline Lathes, 16 in. x 6 ft. Fixther's. New.
Pwo Engline Lathes, 16 in. x 6 ft. Star Tool Co. New.
Dne Engline Lathes, 16 in. x 6 ft. Ames. New.
One Handlathe, 17 in. x 5 ft. Ames. New.
One Planers, 16 in. x 5 ft. Ft. Cood order.
One Planer, 17 ft. x 5 ft. Ames. New.
One Planer, 26 in. x 6 ft. Hendey. New.
One Planer, 26 in. x 6 ft. Hendey. New.
One Planer, 26 in. x 6 ft. Hendey. New.
One Planer, 26 in. x 5 ft. New Haven, Good order.
One Screw Machine Wire Feed. New.
One 15 in. Stroke Shaper. Hondoy. New.
One 26 in. Upright Drill. Prentice. New.
One 26 in. Upright Drill. Prentice. New.
One 26 in. Upright Drill. Ames. New.
One 26 in. Upright Drill. Ames. New.
One 26 in. Upright Drill. Ames. New.
One 15 ib. Air Hammer. Hotchkuss. Good order.
One 16 ib. Air Hammer. Hotchkuss. Good order.

E. P. BULLARD, 14 Dev St., New York

Akron Iron Co.'s Patent Hot Polished Shafting FOR SALE OR TO RENT

New, light Factory; 70,000 floor feet; 275 H. P. Corliss Engine, giving power at minimum

modern. Lowest insurance rates. Railroad siding and ample yard room. Immediate posses

A large quantity of General and Specia Machinery at low prices.

SHARPE RIFLE COMPANY, Bridgeport, Conn.

For Sale.

A Hardware Manufactory, at Westville, Conn., consisting of Foundry, Machine Shop, Storehouse and other buildings; also Water Power, Engine, Boiler, Patterns, Tools and Machinery used in the same.

Address
THE BLAKE HARDWARE CO.,
New Haven, Conn.

For Sale.

Horizontal Engines, 18 x 30 inch, alide valve also 16 x 41 (Hewes & Phillips), with cut-off 16 x 36 (Currier), with cut-off; 16 x 36 (Currier), with cut-off; 16 x 80 Upright Engine, with cut-off; 0 ne 36 H. P. Locomotive Boiler; one 4-ton "Otis" Freight Elevator; No. 3 Knowles Steam Pump. All the above guaranteed complete and in perfect order. For particulars address BELCHER & BAGNALL, 40 Cortlandt St., N. Y.

For Sale.

Stock of hardware, stoves and implements, and store furniture, in one of the best towns in Kansas

Box 366, Salina, Kansa LARGE ENGINE LATHES FOR SALE.

One Lathe, 1s ft. bed, 24 in. swing, screw cutting-triple gear, compound rest, with cross-feed. One Lathe, 25 ft. bed, 55 in. swing, back gear, compound rest, cross and angular feed. One Lathe, 10 ft. bed, 59 in. swing, back geared. These Tools are in use, and can be seen at our

THE STILES & PARKER PRESS CO.,

Manufacturing Property for Sale.

The Real Estate of the late Foundry and Ma thine Company of Taunton, Mass. Buildings consist of Foundry, Machine, Erecting and Black-mith Shops, and covering about 6,000 square feet of ground. For particulars apply to THE GEORGE PLACE MACHINERY AGENCY, 121 Chambers St., New York.

For Sale.

One Upright 35 Horse-Power Engine, with flywheel and driving pulley. Cylinder 10 inches diameter, 20 inches stroke, Judson governor, and Pfunger Force Pump, 4 inches diameter, 5 inches stroke, with brass plungers, brass flanged seats and valves. Price \$650. on board cars at Buffalo Iron and Nail Co.'s Rolling Mills in Buffalo, N. Y. One Fly-Wheel, 7 feet in diameter, rim 8 inches by 9 inches, with belt pulley 4 feet diameter, 19½ inch face, double arms, all keyed on to wroughtiron shaft 5 inches diameter, 6½ feet long. Price 3 cents per pound, net. Apply to

F. L. PRATT, Buffalo, N. Y.

For Sale.

One Horizontal Slide Valve Engine, 13 in. x 28 in. H. P. New. 60 H. P. New.
One Horizontal Slide Valve Engine, 8 in. x as in.,
30 H. P. Nearly New.
One Horizontal Slide Valve Engine, 8 in. x as in.,
30 H. P. Second Hand.
One Baxter Engine and Boiler, so H. P. Second
Hand. For further particulars address ORANGE CO. FURNACE, Middletown, N. Y.

For Sale.

Nine inch Merchant Mill and 56 Rolls.
Lever Shears for cutting railroad iron.
Lever Shears for cutting 1 inch x 2 inch.
Lever Shears for cutting 1/2 inch plate.
Nut Punch, very heavy gear.
Pusey, Jones & Co. Shear, cuts 6 inch x 2 inch.
Horizontal Engines. 20 x 16, 10 x 18, 11 x 2
x 20, 14 x 20 and boliers to suit.
A. G. BROOKS & WINEBRENER.
261 North 3d St., Philadelphis.

For Sale.

A well-established, growing Hardware and Stove business at Hot Springs, Ark. Clean stock. LOCK BOX 415. Address

Little Rock, Ark.

Special Notices.

Second-hand and New MACHINERY

IN STORE, MARCH 29.

IN STORE, MARCH 29.

One Screw Planer, 70 in. x 11 ft.
One Screw Planer, 24 in. x 14 ft.
One Planer, 36 in. x 5 ft. Core. Mach. Co.
One Lathe, 25 in. x 12 ft. New.
One Lathe, 13 in. x 5 ft. New.
One Lathe, 13 in. x 5 ft. New.
One Lathe, 13 in. x 5 ft. New.
One Lathe, 16 in. x 5 ft. Blaisdell.
One Lathe, 16 in. x 6 ft. Blaisdell.
One Lathe, 16 in. x 6 ft. Blaisdell.
One Crank Planer, x in. stroke.
One Milling Machine, No. 4. Wood & Light.
One Storer Shaper, 8 in. stroke.
One Milling Machine, No. 4. Wood & Light.
One Storer Shaper, 8 in. stroke.
One 36 in. Daniels Planing Machine.
One Storer Shaper, 8 in. stroke.
One Woodward Pump, No. 4.
One Woodward Pump, No. 4.
One Woodward Pump, No. 2.
One Knowles Pump, No. 2. Special.
One Cameron Pump, No. 2. Special.
One One Sis & Williams Foot Press.
One pair Paper Rolls.
One Operliating Engine, 75 in. x 10 in.
One One Oscillating Engine, 75 in. x 10 in.
One Horizontal Engine, 11 in. x 24 in.
One Horizontal Engine, 9 in. x 16 in.
Two Horizontal Engine, 8 in. x 10 in.
One One Oscillating Engine, 75 in. x 6 in.
One One Oscillating Engine, 8 in. x 10 in.
One One Oscillating Engine, 8 in. x 10 in.
One One Oscillating Engine, 8 in. x 10 in.
One Ortable Engine, 8 in. x 10 in.
One Ortable Engine, 8 in. x 10 in.
One Oscillating Engine, 9 in. x 10 in.

J. Gray's Machinery Depot, 37 Dey St., N. Y

TO MANUFACTURERS AND CAPITALISTS.

Manufacturers contemplating a change of location, or capitalists desiring to engage in manufacturing, are respectfully advised that the City of Piqua ewns in fee simple, and is desirous to dispuse of the same on liberal terms, and the same on liberal terms, and the same of the same

and payone and payone and payone and payone and payone and chicago.

The Mami & Eric Canal runs from Cincinnati to Toledo, through the city, affording fine shipping facilities, and placing us in close connection with the inexhaustible hard timber supply of this wint and immediately north of us on the Miami & Eric Canal. The dity has the Superi Water Works is Ohio, and a Hydraulic Canal frunishing power for manufacturing purposes to almost any sewants in one of the control of the co

Mills, I hast noise, besides terprises.

Correspondence is respectfully solicited, and any further information desired will be cheerfully given. Persons looking for location are invited to come here and make a personal inspection of the premises and learn further particulars. All communications should be addressed to

President of the City Council, Piqua, Ohio.

For Sale.

The Industrial Works of Shamokin, cwned and successfully carried on for a number of years by the late Wm. Brown, deceased, consisting of Foundry and Machine Shop, and a large stack of Patterns regarded as part of the property. Boiler Shop, Blackamith Shep and Factory for the manufacture of heavy coal screens. Well located in the borough of Shamokin, Pa., with the best facilities for shipping by rail, ard surrounded by a district contributing all the work that a shop of that kind can possibly turn out. The works are now running, but in a very short time possession can be given. Easy terms of payment are offered to suit a purchaser of limited capital.

Offered for sale by WM. MoILVAIN & SONS,

wm. McILVAIN & SONS, Reading, Pa.

For Sale.

The largest stock of New and Second-hand Engines, Boilers, and general Machinery in the West, Send for Catalogue. Hoisting Outfits for Coal Mining and other purposes a specialty.

WARREN SPRINGER,

195 to 219 South Canal St., Chicago.

FOR SALE LOW.—ENGINE.

A Vertical High-Pressure Steam Engine plete. Cylinder, 24 in. by 48 in. Built by A. J. Sweeney & Son. Can be seen in daily use at ou nail factory.

LA BELLE IRON WORKS, Wheeling, West Va.

DESIRABLE MANUFACTURING SITE For Sale or Rent.

Being the extensive property formerly occupied by the BUFFALO IRON AND WAIL WORKS AT BLACK

BUFFALO IRON AND NAIL WORKS AT BLAUB ROCK, IN THIS CITY.

The buildings cover over three acres, and are of brick and wood, substantially constructed, and with slate roofs. They could easily be changed, if necessary, te suit aimost any kind of business.

The water and railroad communication to all parts of the country.

Maps of the property, with full description, sent on application.

P. P. PRATT or F. L. PRATT,

Buffalo, N. Y.

For Sale.

Two Traveling Cranes, so-ton capacity. Also, 28-inch Lathe Patterns, 18 feet bed. A lot of Lathe Chucks from 18 inch to 48 inch, new; all the New York Steam Engine Co,'s make. Also Iron Hanger Patterns from 1 inch to 4 inch, complete.

JOSEPH LUMLEY, 144 N. 3d St., Philadelphia, Pa.

Presses for Sale.

Three small Power Punching Presses, in first-class order. They have heavy fly wheels; two are 13 in. dlam., and one 16 in. Price \$65 each (cost \$150). Also two large new Punching Presses; weight, 1300 each; box frame style; hight, 5 feet; throat, 6 inches; opening in bed, 5 x 5; balance wheel, 30 x 3½, weighing about 300 pounds.

President Punch and Shear Co., 115 W. Liberty St., New York.

Situation Wanted

By a man, aged 3z, of several years' experience in all the details of a Merchant-Bar and Sheet Mill, as Assistant Manager, Stocktaker, Time-keeper or Shipper. Good references. Five years in last situation. Apply to C. F.,
P. O. Box 105, Acadia Iron Mines,
Londonderry, Nova Scotia.

Special Notices.

JOB LOT **ELEY BROTHERS'**

GENUINE BLUE CARTRIDGE CASES. Twelve Gauge.

The best paper shell in the market. For sale cheap. Supply limited.

ALPRED FIELD & CO.,

93 Chambers St., N. Y.

Notice to Manufacturers of CAST-IRON WATER PIPE.

Sealed proposals will be received at the office of the Board of Water Commissioners, City Hall, Hoboken, N. J., until 8 o'clock p. m. Thursday, April 27, 1882, for furnishing the following Cast-Iron Water Pipe and the necessary Castings:

Four thousand three hundred and fifty (4350) feet of sixteen (16) linch.

Two thousand seven hundred (2700) feet of twelve (12) inch, and the required Branches, Bends, &c. To be made of a 200d quality of iron. The pipes to be cast vertically, bell-end down; tested and inspected under a hydraulic pressure of three hundred (200) pounds to the square inch. To be free from defects of all description; to be coated with tar while hot inside and out. The pipes to weigh on an average as follows: The sixteen inch, one hundred and twenty-five (123) pounds to the lineal foot; the twelve inch, seventy-five (73) pounds to the lineal foot; the twelve inch, seventy-five (73) pounds to the lineal foot. The Branches and Castings to be of corresponding strength. The Hub or Socket and the Spigot end of the pipes will be shaped in exact conformity with the drawings which will be furnished. Proposals to be indorsed: Proposals for furnishing Cast-Iron Water Pipe, and directed to the Board of Water Commissioners of the City of Hoboken. The Board reserve the right to reject any or all bids if deemed for the interests of the city so to do.

By order of the Hoard of Water Commissioners.

M. H. MURPHY, Registrar.

To Railroads, Mill Owners and Contractors.

STRUCTURAL IRON WORK FOR SALE.

Having purchased the Ironwork of the Main Centennial Building, situated in Fairmount Park, Philadelphia, we now offer the same in sections to suit purchasers. These buildings can be sold in widths varying from 100 to 165 feet, and of any hight, from 40 feet down to 25 feet, and in length from 100 to 70 feet. We have eight Spiral Stairways, in all over 500 steps.

Plans showing how all parts of these buildings may be utilized in railroad depots, &v., have been prepared by Messrs. Wilson Bros. & Co., of Philadelphia, civil engineers and architects, and can be seen at the office of Mackiatosh, Hemphill Co., limited, Fort Pitt Foundry, Pittsburgh, Pa., or at the office of the company, at Centennial Building, West Philadelphia.

Wishing to dispose of the above quickly, we are prepared to offer great inducements to purchasers, both as to low price of material and promptness of delivery, any communications addressed to the CENTENNIAL STRUCTURAL CO., care of Mackintosh, Hemphill & Co., Limited, will receive prompt attention.

THE NEW ENGLAND Manufacturers & Mechanics' Institute

will hold their Second Annual Exhibition a Boston, in their specially constructed Exhibition Building, the largest in the United States, during SEPPEMBER AND OCTOBER, 1882. Exhibitors invited from the whole world. Blank forms of applications for space sent upon application to JOHN F. WOOD, Treasurer, 38 Hawley Street, Boston, Mass.

Copartnership Dissolution. NOTICE is hereby given that by the death of the junior partner, Mr. Nathan Anthony, the firm of HRADFORD & ANTHONY is this day dissolved. The affairs of the firm will be settled by the under signed, the sole surviving partner.

Region, June 12, 1887.

RATTIN L. BRADFORD.

Boston, June 12, 1881.
All communications in regard to the affairs of the ate firm should be addressed to BRADFORD & ANTHONY, Boston, Mass.

MARTIN L. BRADFORD hereby gives notice that he will continue his business under the name of "BRADFORD a MATTHEY". The estate of the late Natham Anthon s to be in no way interested in the future business whether conducted under the name of Bradford & Anthony or

Herwises communications abould be addressed to
RRADFORD & ANTHONY
Sy Weshington St., Boston,
Importers, Manufacturer Agents and Dealers in
Cutlery. Fining Tackle, States.
See advertisement first issue each month.

The Sherman Process Co.

9 Pemberten Square, Boston, Mass., Issue Licenses to use the Process for the

Manufacture of Iron and Steel In the Bessemer Converter, Crucible, Siemens Martin, Puddling, Blast and Cupola Furnaces. The use of this Process improves the quality of the product, saves fuel and labor, and does not re-

guire any change in furnace or manner of working See page 17 of The Iron Age of Oct. 25th, 1877.

To Manufacturers or Capitalists. Water Power, with Factory, Foundry and other buildings in the state of Connecticut, all in fine working order and all now occupied. Will be sold to close a copartnership.

This is a rare opportunity, as water power is never failing. For further particulars nouire of F. B. GURNEY,

No. 95 Chambers Street, N. Y.

Notice.

A building site will be given to responsible par-ties who understand the business, and will erect Car Wheel, Malleable or other Iron Works in thriving village. Iron region; superior shipping point; junction four railroads. Citizens and rail-roads desire business. Portion of capital furnished if desired. For interview address desired. For interview address
CITIZENS,
Office of The Iron Age, 83 Reade st., New York.

This is to certify that the partnership hereto-fore existing between R. P. Scott and J. H. Barlow, under the firm name of R. P. Scott & Co, is this day dissolved by limitation and mutual consent. consent.
Signed this oth day of February, A. D. 1882.
Signed R. P. SCUTT.
J. H. BARLOW.

Copy, by R. P. S. The business formerly conducted at Newark, N. J., will be continued by the SCOTT MANUF G CO., Baltimore, Md.

Export. An American of middle age, with a long business experience in Foreign countries, is making up a voyage to the East Indies, Australia, New Zealand and Cape Colonies, Africs, and will take a sample line of American hardware, machinery and specialties, if a sufficient number of responsible houses apply. Solid references given.

Address

TRAVELER,

Address
Address
P. O. Box 45s, New Haven, Or DUNCHING PRESS AND SHEAR FOR SALE.—A Bollermaker's Punching Machine, 24-inch throat punching \$4-bote nd \$4-bote . Also a Power Shear, will shear \$6 plate-tron \$4 inches in wieth. Weight of each about \$400 nounds. PERLESS PUNCH AND SHEAR CO., 115 W. Liberty Street, hew York. April 27, 1882.

DOW

Trade Report.

BRITISH IRON AND METAL MARKETS.

[Special Cable Dispatch to The Iron Age.] LONDON, WEDNESDAY, April 26, 1889.

Scotch Pig.-A considerable business has been done during the week, at irregular prices. Values continue to fall off, our quotations showing a decline of 1/ in Langloan, Coltness and Gartsherrie, and 6d. in Summerlee and Eglinton. The following are to-day's prices for No. 1:

Langloan, al	ongside,	Glasgow.	,,	9	9 0				0				,		, ,		39	11
Coltness	4.6	44			0 1				0	0	0		0 1	0 0			58	1
Gartsherrie	44	84	g	۰		0.9		0	0								58	1/
Summerlee	6.6	44															57	1
Carnbros	4.6	44			9 0		. 0	0	0	0	0	0 1					51	1/1
Glengarnock	4.5	Ardrossan	0	0 1			0	0	0		0	0 4					51	1
Eglinton	44	4.6			0 0												48	1/1
Lighterage	from A	rdrossan	t	0	-	G	le	u	ij	r	0	W	r	i	s	2	1	a
2/6 per ton.																		

Cleveland Pig.-The market is very unsettled, and makers' prices are difficult to quote. No. 3 G. M. B. is quoted 42/3 @ 43/6, f. o. b. makers' wharves in Tees. The following quotations are as near as can be given in the present state of the market. Middlesbro' No. 1 Foundry 46/

No. 3 " No. 4 Forge.....

Bessemer Pig.—Considerable inquiry is reported, but actual transactions have been only fair. We quote W. C. Hematites, equal portions Nos. 1, 2 and 3, nominally, 53/@

Blooms.—The market is dull, with small demand and little business. We hear of 1400 tons Bolckows, for Philadelphia account, and inquiries for 1000 tons for San Francisco.

Manufactured Iron,-The market is quiet, with but little demand, and prices are minally as follows:

	-				£	B.	d		£	8,	d
Staff.	Ord.	Marked	Bare		7	0	0	0	7	10	0
	41.	Mediun	n **		7	0	0	0			
1 1	44	Commo	n **		6	0	0	0			
Hoops.	, 20 W	7.G. & ove	er. ·								
64	Com	mon Best			8	0	0	0	8	10	0
84	Medi	um			7	0	0	0	7	5	0
64	Comi	mon			6	10	0	0	6	15	0
Sheets	, 20 W	7.9. & un	der.								
66	Ordin	nary Best			8	10	0	0	9	0	0
68	Com	mon			8	0	0	0			
Welsh	Bars				5	15	0	0	6	0	0
Qto	of E	- alle	The	don	201	ha	in.	16	-h+	-	.4

ctions small. We hear of inquiries for Steel Rails for San Francisco. Ordinary sections are quoted, nominally, £5. 12/6 @ £5. 17/6.

Iron Rails .- There is very little business doing, and quotations are nominal. We quote Welsh, 30-fb and upward, nominally, £5. 5/, 1. o. b. shipping ports.

Old Rails .- The offerings are light, and prices are tending downward. There are no Directors. sales to report. Old D. H.'s are quoted 87/6 at Philadelphia.

Scrap.-The market is dull, with moderate offerings. No sales are reported. Prices are weak. We quote Heavy Wrought, nominally, c. i. f. New York, £4.

Copper.—During the week the market as been depressed, but has now recovered a little, though still very far from being Best selected is quoted £70 @ £71, and Chili Bars, £63. 15/@ £64. 5/.

Tin.-The downward tendency of prices received a check during the week, and prices advanced a little, but have fallen off again and are now weak. Straits Ingot, spot, is quoted £96 @ £96. 15/.

Tin Plates.—The market is unsettled, and quotations are nominal:

a	Pantes,	10 X I	4, ret qu	ini. Chi	1618	/ G	
	66 -	49	rst	" Co	ke16		
	68,	- 48	fiè	61 - 46	15	10	16/
8	pelte	r.—T	he ma	rket is	dull, an	d pr	ices
	teady.	W	e quote	Ordin	narv. at	shipp	oing

ports, nominally, £16. 17/6 @ £17. Lead .- There is but little demand, and the tendency of prices is in buyers' favor. Common English Pig is quoted £14. 10/ @ £14. 17/6.

Freights .- Steam from Glasgow to Ne York, 9/6@ 10/; Liverpool to New York, 10/@ 11/; and Liverpool to Philadelphia, 10/6@11/.

FINANCIAL.

Office of THE IRON AGE, | WEDNESDAY EVENING, April 26, 1882.

General trade has been sluggish throughout the week. In fact, the spring business from the start has been hardly up to expectations, attributable, in many departments, to the open winter and exceptionally bad roads, especially in the West and Northwest. The influence of the disastrous floods in river bottoms is also perceptible in limiting the demands of purchasers. At the same time a | 000 ; personal, \$133,700 ; merchandise, Janvery hopeful feeling exists, arising from uary I, \$428,700; machinery, &c., \$1,327, good crop prospects both West and South, 400; sundry patents, \$55,602; the and the generally healthful condition of trade pany's own stock, valued at \$91,400; Keat's as regards credits, there being few signs Machine Company, \$91,700; personal acof undue expansion, such as might excite counts, including cash, \$36,700. fears of commercial revulsion. Moreover, foregoing it is remarked that the merchanthere is a superabundance of money, so that dise account is probably larger now, while our savings banks and other fiscal institu-tions are encumbered with large blocks of Liabilities, to New York agent: Debtor to cash, which are offered in some instances for balance, \$164,694; the company's notes used a term of years as low as 41/2, or even 4 %. by him, \$167,613, leaving a balance against The enormous influx of immigration, too, him of about \$3000. Due Chicago agent for

lation in agricultural products.

Pacific, 88 7/4 @ 87 1/2.

Foreign exchange during most of the week was quiet, but firm. Considerable exchange was made against the export of railroad bonds and other securities. The actual rates are 4.86½ @ ¾ and 4.89¼ @ ½. Government bonds are strong, with heavy sales on day were as follows:

Bid. Asked.

Without further interruption.

Yours respectfully,

J. B. Anthony, President.

1	die noto do Tollows ;		
	U. S. 6's, '81, continued at 314 Rid.	Asked.	
	U. S. 5'B, '81, continued at 3%	102%	
l	U. S. 4½'s 1891 registered	216%	
	U. S. 4'8 1907 registered	12136	
l	U. S. 4's 1907 coupon	12194	ı
	U. S. Currency 68 1896	-	ı
į	U. S. Currency 6s 1897	- /	l
1	U. S. Currency 6s 1899	_	

A Washington dispatch states that a call for \$15,000,000 extended 6's will be issued May 3, which will leave less than \$45,000,ooo of those bonds outstanding, and it is and the removal of this competitor from the retired by August.

State stocks have been strong and occa sionally active. To-day Tennessee 6's advanced to 591/2, while Alabama, Class A. declined to 81% and Louisiana Consols to 65.

port during the past week were below the usual average, the total being but \$6,006, last year. The shipments of petroleum were fair, but the movement of the other principal articles, such as breadstuffs, provisions, &c., was light. Since January 1 the value greater than for the corresponding time in ing, we may have to ask a little indulgence 1881, while the value of the merchandisc exported is \$21,952,941 less. For the corres ponding date last year the imports exceeded the exports only \$12,067,804; this year the imports exceed the exports \$64,400,786.

It is said that Mr. Houston will retire from the presidency of the Pacific Mail Company at the coming election, and be succeeded by Mr. Gould and associates in the Board of

The importations of specie and bullion a this port during the week ending April 21 were \$32,000, consisting of \$10,450 in gold, and \$21,460 in silver, as against a total of \$2,764,081 for the week ending April 23 last year. The importations since the 1st of January and since the 1st of August compare as follows with the movement during

the corresponding per	iods last yes	r:
		nuary 1
Gold	1889. \$451,901 694,409	1881. \$26,287,958 1,085,417
Total	\$1,145,610	827,374,375
Gold	1881-82.	1880-81. \$94,566,926 3,557,768
Total	\$26,735,071	\$08,124,604

The bank returns for the week shows a gain of \$4,093,400 in reserve, which now stands at \$9,049,550 above, against \$8,059, 150 above at this time last year, and \$2,191, 525 below for the corresponding date in

The following is an analysis of the bank totals of this week compared with that of

Loans Specie Legal t'd'rs Deposits Circulation.	April 15.	April 99, \$308,688,400 64,135,000 18,259,400 893,351,400 19,366,800	Dec. Inc. Inc. Inc.	\$2,959,8cc 2,909,4cc 1,683,5cc 1,998,ccc 640,2cc
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GENERAL HARDWARE.

We learn from Mr. Newhall, New York agent, that the works of the Providence Tool Company were started up again on Wednesday morning, and, as he remarked, "more vigorous than ever." The financial affairs of the company, as disclosed at a meeting of the creditors last Saturday, were less favorable than had been expected. As reported to Bradstreet's agency in this city, they were a surprise. The account stands about as follows : Assets, real estate, \$513,-

unfavorable disproportion of exports and Drexel, Morgan & Co. upon guns in their imports and derangement caused by specubands which do not appear in the inventory, and other Hinges, Galvanized Wrought-Iron less any amount which may be realized from On the Stock Exchange, during the week the sale of 48,167 rifles and 41,900 sabers, under review there has been some improve- bayonets and scabbards over and above adment, the bear element having been less vances, they being of the contract valuation demonstrative. A partial recovery in prices of about \$800,000. The officers of the com- and a very complete assortment of Ship became more manifest in consequence of pany, according to the reports made to attempts to cover short contracts. On creditors, state that there is a present Thursday the Wabashes became very weak, demand for much of their surplus Machinery. unsettling the whole list, and on Friday They invested considerably in Sewing Mathere was a sharp attack on New Jersey Cen- chines, in order to utilize their property. tral, which was renewed on Monday and Their Hardware department is active. Their Tuesday, based on reports that the road was sales for March amounted to \$90,000. The and Stephens & Co., will be moved from No. burdened by a floating debt of \$2,500,000, pay-roll was \$30,000. They say that if no to No. 83 Chambers street on the 1st and would soon be taken out of the hands of they had dismissed the idea of doing more proximo. the receiver. Stocks, in fact, form simply Gun work, and sold their Machinery and "a traders' market," with few signs of a collateral Guns, they would undoubtedly be speedy change. To-day the market was much better off. The creditors appointed irregular. The principal dealings were in an able committee to investigate the com-Lake Shore at 1033/4 @ 1021/3, Denver at pany's affairs, with discretion to use any of 61¼ @ 59¼, Jersey Central, 68¼ @ 67¼; the assets or funds for the purpose of com-D., L. & W., 118½ @ 117¾, and Missouri

We have received the following card :

NEW YORE, April 26, 1882. GENTLEMEN: The works of the Providence Tool Company have been stopped for a few days, thus interfering slightly with deliveries of goods of their manufacture. Their factories are again in operation, and deliveries of merchandise of all kinds will be made

The demand for General Hardware has tapered off considerably, and we hear a good deal of complaint that the current business is a disappointment to the trade. The tone of the market continues strong, and no changes in values have been reported during the week.

The Eagle Lock Company have purchased the stock, property and business of the Western Lock Company, of Geneva, Ohio, expected that they will all be practically field has had a strengthening effect on the price of Cabinet Locks, which of late has been omewhat demoralized.

The demand for Nails, certainly as far as the local trade is concerned, is disappointing although we hear of a fair business on out-The exports of domestic produce from this of-town account. There is no improvement to note in regard to a stricter adherence to the card rate, and \$3.30 per keg for 10d. to 121, against \$6,532,692 for the same week 60d. seems to be the ruling price for small or large orders.

The New York Smelting and Refining Co.. in a circular to the trade under date of the 25th inst., say: "In consequence of the of merchandise imported is \$30,380,041 fire which occurred at our works last evenfrom our customers on their orders for Solder, Babbitt and other Bar Metals for a few days, the fire having been confined to that part of our works. Our Spelter, Lead, Lead Pipe, Sheet Lead, Old and New Metal departments remain uninjured, and all orders for any of the above goods will be shipped without delay.'

The Globe Nail Company have issued the following circular: BOSTON, April 15, 188a

In notifying you of the death of T. H. Fuller, Esq., the late president and manager, we desire to state that the company has been reorganized with an ample working capital, and is now prepared to fill all orders promptly, and in a satisfactory manner.

We trust that you will favor us with your patronage as heretofore, and assure you that in the manufacture of our standard "Globe" Nails, we shall, by the use of the best stock that can be procured and the adoption of a liberal and equitable policy, endeavor to make our future business relations mutually pleasant and profitable.

ARETAS BLOOD, Pres't, J. T. Bailey, Treas., H. D. Parker, Directors. JOHN T. COOLIDGE, EZRA H. BAKER, R. M. MORSE, JR.

At the annual meeting of the stockholders of the Yale Lock Mfg. Co., held on April 20, the following gentlemen were re-elected directors for the ensuing year :

HENRY R. TOWNE, Stamford. SCHUYLER MERRITT, Stamford. GEORGE E. WHITE, Stamford. M. F. MERRITT, Stamford. ALBERT KELLEY, NEW York. BEAUVEAU BORIE, Philadelphia THOS. F. KEATING. New York.

At a subsequent meeting of the directors, the following officers were re-elected, viz. : Henry R. Towne, president; Schuyler Merritt, secretary, and George E. White, treasurer.

Refrigerators for the season of 1882. The discount to the trade from this list is 25 per cent. In an advertisement of these goods, which appeared in our issue of the 20th inst., Mr. Lesley's street number was incorrectly printed 327 instead of 1327. ZERO REPRIGERATORS.

Sizes and Prices. - Dimensions and Prices-Grained in Oak.

Number.												Length.	Depth. Inches.	Depth. Inches. Hight. Inches.		Ex. Wine tter or k Cooler.															
90					,																						30	x8	#8	\$20	R a
0		a				0		0	0	9	0	0		0			,		0	,	0			0			33	19	30	24	3
8									a	0	۵	۵	а		٥	ø,	0		0	0		0	0	۰	0		35	20	33	27	
3			0			۵	0	0	0		0	0	0	0	0	0		۰	0	0	0	٥	٥	0	0	0	39	21	34	33	\$25
3	a				0		0	0	0	0	۵	0	0	0	0	0		0	*	0	0	0	0	0	0.		42	99	36	38	43
4				0	0	0	0	0	0	n	0	0	۰	ď		0	0	0	0	0	۰	0		0	0		45	93	38		50 60
5		.0.	0				0	0	p		0	0	0	0	0	٥	0	0	0	0	٠	0	9	0			48	24	40		60
6	0	0				0	0	0		0	0	0	0	0	۰	0	0		0	0		0	۰	٠	0	0	51	25	43		70
7	,			D		0			٥	0	0	0	0	0	0	o	0	10	0		0		0	0	0		55	28	43		Bo
8	٠	٠		0	٠			0.	0.				۰			0	0					۰			٠		60	30	46		100

W. & J. Tiebout, No. 33 Chambers street,

and other Hinges, Galvanized Wrought-Iron Strap and T and Plate Hinges, Cast Brass Bolts in various patterns, Brass Sash Pulleys, Window Catches, Hooks and Staples and and a very complete assortment of Ship Chandlery Hardware. The book contains 147 pages, and is printed on heavy tinted paper with good clear type. The illustra-

IRON

American Pig.-The tone of the market is unchanged since our last writing. As far as demand is concerned, there is little doing beyond filling small orders to tide over the requirements of the moment, and were it not for the fact that the leading furnaces on the Lehigh are well supplied with orders taken months ago, when the outlook was brighter than it is at present, the position would be decidedly gloomy. It is pleasant to note, however, that deliveries on contracts continue on the large scale so frequently noted in these columns, and the consumption of Iron is said to be as heavy as at any time during the last 12 months; another encouraging feature is that there is no evidence of any pressure to sell, and so far as domestic Pig Iron is concerned, values are well sustained. We quote Foundry No. 1 X, \$25 @ \$25.50; Foundry No. 2 X, \$24; Gray Forge, \$23.

Scotch Pig.-A good deal of Scotch P has been sold during the week, but t terms of sale have been, as a rule, private from which it may be inferred that prices lower than current quotations have been accepted. Included in the sales are 350 tons Glengarnock, in lots, at prices said to average about \$24. We quote: Eglinton, \$23: Carnbroe and Glengarnock, \$24; Gartsher rie, \$25 @ \$25.50; Coltness and Langloan \$25.50 @ \$26.

Rails.-The demand for Rails during the week was inactive, and no sales worthy of mention have come to our notice. We quote: Steel, at mill, \$50; and Iron, \$47

Old Rails .- Beyond a somewhat improved inquiry, there is little change in the situation. The market for old material is in a very unsettled condition, and is in that peculiar position where a buyer would find it difficult to shade the asking price, and where an urgent seller would be obliged to yield considerably in order to realize. Sales are reported of about 1000 tons Double Heads at \$28 to arrive, since which bids at the same price have been made and declined, sellers asking \$29. We quote, T's, \$27.50 @ \$28, and D. H., \$28.50 @ \$29.

Scrap.-There is little or no demand for Wrought Scrap, and if any sales have occurred during the week the particulars have been withheld. No. 1 Wrought, from yard, is quoted at \$30; and to arrive, about

METALS.

Copper.—Since our last report the market has relapsed into a dull mood, sales made of Lake probably not exceeding 300,000 lb, at 18 @ 18 1/2 ft. There is a rumor that some Lake sold as low as 17 1/2 ft. In England the market has been steadier, at £70 for Best Selected and £63. 10/ Chili Bars. Per mail we receive the ensuing about the statistical position: "London, April 8.—The total stock on the 31st ult. is said to be 53,030 tons, against 54,049 tons at the end of the previous month, or a decrease of 1019 tons for the month of March. The stock of Chilian and Bolivion produce in first and second ian and Bolivion produce in first and second ian and Bolivion produce in first and second hands in Liverpool and Swansea, on the 31st ult, is reported at 24,293 tons, against 25,932 tons on the 15th ult., or a decrease of 1639 tons. The imports of Chili produce during the last half of March were 207 tons, against 773 tons for the same time last year; while the deliveries were 1846 tons, against 825 tons for the similar periods; and the imports of other kinds of copper during the latter of other kinds of copper during the latter fortnight in March were 857 tons, against 545 tons for the corresponding time of last year, and the deliveries 1094 tons, against 1038 tons." By cable we are reported our-selves to-day as under: "During the week the market has been depressed, but has now thenry B. Towne, president; Schuyler Meritt, secretary, and George E. White, treasirer.

Alex. M. Lesley, No. 1327 Broadway, has
ssued the following price list for the Zero
Refrigerators for the season of 1882. The
liscount to the trade from this list is 25 per
lent. In an advartisement of these grounds. box ditto, 30¢.

Tin.-London has fluctuated again during Tin.—London has fluctuated again during the week most violently, declining with Straits to £88, advancing to £100, and this morning it had receded to £96. 10/. It seems that prices in that market change from hour to hour, and under these disturbing in-fluences no wholesale business has been done here. The jobbing trade is, however, reprehere. The jobbing trade is, nowever, represented as being fair. Our market gave way to about 21½¢, with Straits Tin; to-day's nominal value is 22½¢. Singapore receded last week to \$30 \$\ \text{picul}\$; picul; since then we hear nothing from that quarter, but we hear nothing from that quarter, but the Billiton Government sale, which took place at Batavia yesterday, when 13,000 piculs were disposed of, averaged 67.56 guil-ders picul, the parity of which, cost and freight, is £100, against 77.25 guilders at the February sale. About the statistical position we receive per mail, London, April position we receive per mail, London, April 8, the following: "A tolerably good busi-8, the following: A tolerably good business is being done for consumption, the defore, financially and commercially, may be regarded as auspicious, despite the cloud pay-roll is estimated at \$15,500. Notes pay-resting upon the foreign trade, in the present able, \$854,733, not including \$155,000 due

auvances on merchandise account, \$24,300; have just issued a handsomely illustrated liveries last month being reported as 16,70 tons, against 1464 tons in February tons,

tons, against 15,896 tons at the end of the previous month. The shipments from Straits to London during March are stated to be 525 tons; from Australia, 1075 tons; from Straits to America, 725 tons. The stock of Banca in Trading Company's hands and afloat is estimated as 38.8 ton." Perception is estimated as 2898 tons." Per cable we re-ceive, this afternoon, the following dispatch:
"The downward tendency of prices received a check during the week and prices advanced now a little, but have fallen off again and are paper with good clear type. The illustrations and binding are first-class.

The New York offices of Humason & Beckley Mfg. Co., the Wm. Rogers Mfg. Co. and Stephens & Co., will be moved from No. 100 to No. 83 Chambers street on the 1st where special concessions can be obtained, We quote toward the close, large lines, ordinary brands, per box: Charcoal Bright, \$6.00 \$6.25; ditto Ternes, \$5.25 @ \$5.50; Coker Tin, \$5.05 @ \$5.15, and ditto Ternes, \$5.12½. Liverpool quoted yesterday, Coke, 15/3 @ 15/6, and Charcoal, 19/0 20/. We receive from London to-day: "The market is unsettled and quotations are nominal."

Lead .- The market here has been excessvely dull and quiet during the week at \$4.95 @ \$5, which remains the closing quotation. Refined has also been inactive at \$5.05 @ \$5.10, with a few sales at the latter figure. St. Louis is about as flat as it can be at \$4.55 to New York. From London we receive ourselves, to-day, the following: "There is but little demand and tendency of prices in buyers' favor. Common English Pig, £14. 10/ @ £14. 17/6." Manufactures have been subject to no change since our last. We which to no change since our last. We quote: Pipe, 7½¢; Sheet, 8¢; Tin-lined Pipe, 15¢, and Block, 45¢; all less 10 % to the

Spelter and Zinc .- Domestic Spelter has been rather duller and easier; it cannot be quoted any better than 5½ @ 5% ¢, whereas Silesian remains steady at 5% ¢ @ 5% ¢ sominally. From London we are cabled to the following effect: "The market is dull and prices unsteady. Ordinary, at shipping ports, nominally, £16. 17/6 @ £17."
We quote Bertha Refined, 8¢, and Bergenport, 91/2¢. Sheet Zinc has been moderately active at 73/4¢ @ 8¢.

Antimony .- A fair jobbing trade is transacting. We quote Cookson, 141/2 @ 143/4, and Hallett, 121/2 , nominally.

COAL.

Discontent in the Coal trade is as strongly marked as at any time this season. Dullness prevails and prices are not satisfactory. While the large Anthracite operators would not willingly admit that there is much cutting, they nevertheless confess that sales are ting, they nevertheless confess that sales are governed more by circumstances than by circular rates; that is to say, operators and dealers do business each one for himself, on the best terms possible. It is affirmed, however, that the big concerns stand up generally pretty firmly to the circular prices. Business is less favorable than one year ago in this carrect that it is more of the 'hand, in this respect; that it is more of the "hand-to-mouth" description; dealers are not filled up with orders ahead, yet shippers are about up to last year's figures, and, in some instances, are in advance. In Bituminous Coal, trade is inactive. For Clearfield the quotation is about \$4.50 per ton, while Cumberland is virtually out of the market, the miners having been out about two months, or since Feb. 15.
Freights to Boston are \$1.10; to New

Haven, 50¢, and vessels are not so scarce.

The Philadelphia Ledger says: "This week there will be only three days' work at the mines, and a similar restriction has been resolved upon for the first and second weeks in May, and official notice given that there will be an equal restriction during the later weeks of May if necessary. Thus there will weeks of May if necessary. Thus there will be three weeks of steady half-time working, with a probability of its continuance until June 1. This enforced restriction is absolutely necessary to keep the production of Coal down to anything like the demand for consumption. There is practically no de-mand for the domestic sizes of Coal, and the larger sizes, consumed mainly by steam users, seem only to be wanted to the extent that bare half-time production will

upply."
The Pottsville Miners' Journal says: The necessities of the furnaces and manu-Steamboat and Broken that can be produced on half time, but there is absolutely no demand for the domestic sizes."

OLD METALS, PAPER STOCK, &c. The purchasing prices offered by dealers are as follows:

... 6 ... 10 ... Copper, heavy.... Copper Botton Yellow Metal. Zinc.... Pewter, No. 1...

FOREIGN TRADE MOVEMENTS.

The following is a summary of foreign trade movements for the past week: IMPORTS.

For the week ending April 22:

Quan.
Mf. iron, pkgs 166
Clocks, pkgs... 3
Ptlm.,gals ... 25,407
Steam pmp, pgs 4
Ag. imp., pgs... 13
Mach'y oil, cs. 8

Mach'y oil, cs. 8
Sew. ma., pgs 2
R. R. trck. secs 528
Nails, kegs 355
Hdw., pgs 125
Mach'y, pkgs, 722
Spikes, kegs. 46
Pins, cse 1
Nails, cks 14
Locomotive 1

Ptlm., gals...1004 Mf. iron, pgs. 14 Mach'y, pkgs. 6

Mf. iron, pkgs 36
Hdw., pkgs... 94
Clocks, cs... 146
Revolvers, cs. 9
Sew. ma., cs. 86
Mach'y, pkgs. 43
Bayonets, cse. 1

Bayonets, cse.
Nails, kegs...
Pistols, cse...
W. mills, cs...
Y. metal, cs...

Africa.

Ptlm., gals..91,750 2,60

United States of Co.

tombds.

Ptim., gals..., 7950
Mf. iron, pkgs 169
Hdw., pgs 273
Sew. ma., cs... 152
Mach'y, pkgs... 138
Zinc, casks... 6
Pistols, cso... x
Pumps, pkgs... x
Saddlery, cs... 3
Nails, kegs... 37
Revolvers. cs... 10
Asils, bcs... r
Bell.... x
Lead, rolls... 5
Cutlery, cs... 25
Copper, cse... x
Guns, cs... x
Ag. imp., pgs... r
2

Ag. imp., pgs.
Y. motal, cs..
Clocks, pkgs..
Carbines, cs..
Qcksilver, fiks
Firearms, cs..
Cop. tubes, bdls
Ion. pkgs...

lion, pkgs... 208 Water valves. 5 Steel, pkgs... 13

Dunkirh.

Ptlm., gais. 918, 317 15, 50

French West Indies

Pasages.

Ptlm., gals. 173,957 12,611

Barcelona.

Bordenum.

Naph.,gals. 185,099 14,345

Ptlm., gals. 161,863 11,73

Bilboa. Ptim., gals. 131.430 15.0

Lisbon.

Constantinople. Ptlm., gals. 139,330 14,800

Leghern.

Ag. imp., pkgs 10 1,640

Japan.

Ptlm., gals.373,000 42,50 Venesuela.

Uruguay.

Argentine Republic.

Ag. imp.,pkge 1 Ptlm., gals...8250 Mf. iron, pkgs 33 Needles, pkge 1 Nails, kegs... 20 Hdw. pkgs... 80

Hdw., pkge... r
Sew. ma. cs... 30
Cutlery, box. r
Nails, pkgs... 60
Pilm., gals... 10,000
Clocks, pkge... r
Ag. imp., pkgs... 41
Car spring... r

Clocks, pkgss 35 Ptlm., gals. 4c,000 Sew. ma., cs... 128

Pumps, pkgs. 4 W. ma., pgs. 17 Ag. imp.,pkgs 240 Mf. iron, pgs. 6 Mach'y, pge. 1 Hdw., pkgs. 31

100 Ptm., gals...434,980 48.27 874 Mf. fron, pgs. 236 1,83 220 Hdw., pkgs... 20 45 1,509 Nails, kags... 200 52

China.

1,130

Porto Bico.

22			
Included in the	imports were articles		PORTS
	Quantity. Valu		
Antimony	193 \$15,1 173 \$1,1	25	
Chains and Anchors		36 Dutch West Indie	
Clocks	57 6,6	86 Peter Cale Quan. Vi	al. Mf. iron, pk
Cutlery Pins Gas fixtures		14 Windlass, pgs 3	81 Clocks, pkg
Guns	00 26,6	15 Hdw., pkgs 19 1	Ag. imp., pg. Mach'y oil, c
Iron, pig, tons Iron, sheet, tons	9,888 193.9	Copenhagen.	Sew. ma., pr
Iron ore, tons Iron, other, tons	1,891 66,4	08 Clocks, pkgs., 48 7	Nails keen
Railroad bars Machinery Metal goods	290 24,6	56 Ag. imp.,pkgs 36 1,79	
Nails Needles	96 x,3	58 Ptlm., gals.256,738 18,40	Naila ola
NickelOld metalPlatinaPlated ware	18 4.3 6,5	Hamburg. Ptm., gls.1,849,764 136,94	Porto
Percussion cans	16 3.3	Mach'v pkgs 6 8	Mf. iron, pgs
Saddlery Steel Spelter	16 3,2 29 8,2 62,593 268,6	Nails, kegs 106 38	
Bilverware	5 I	Agl. imp. pgs. 71 5,61	Hdw., pkgs
Tin, 16,5013labs, 1,683,35 Teasles	8 lbs 453.5	76 Tacks, bxs 76 1,00 Cutlery, cs 3	Revolvers, cs
Wire	9 3,3		Sew. ma., cs Mach'y, pkgs Bayonets, cse
previous dates:	ords a comparison wit	Ptlm., gals.508,913 36,90	Nails kops
For the week	he 16 weeks Same tin k. 1881. 1881.	Ptim., gals.a44,000 s8,00	Y. metal, cs. Pumps, pkge
Windmann minne	6x 2,450 2,395 32 372 394 34 47,382 60,888	Amsterdam.	Cutlery, cs Ptlm., gals
Iron, R. R. børs. 2,5 Lead, pigs	34 47,382 60,888 9,505 6,354 93 632,295 238,675	Mf. iron, pge. 1 3	4 Ag.imp.,pkgs 7 Iron safe
Tin, boxes 49,4 Tin slabs, lbs	65 705,211 458,443 58 4.999,442 5,313,454	Ag. imp., pgs. 2 10 Cutlery, cs 3 2 Mach'y pkgs. 14 34 Hdw., pkgs 23 68	Firearms, cs.
	OF SPECIE.	Mach'y pkgs. 14 34 Hdw., pkgs 23 68	Tacks, cs Cartridges, co Iron tanks Gal'd rods, bd
For the week and		Ptm., gls. 1,211,466 106,56	0]
Total Previously reported	**************************************	3 Hdw., pkgs 180 2,18	5
Total since January 1, Same time in 1881,	1882 \$14,659.35 3,863,78	3 Mach'y, pkge, 1 50 8 Sew, ma., cs. 10 250	Ptlm., gals
		Mf. iron, pkgs 16 70	Ptlm., gals9
Same time in 1878 Same time in 1878 Same time in 1877 Same time in 1876	7,069.23 4,853,63	Br'ss g'ds., cso 1 60	Chites ates
Same time in 1874	10,812,28	Ptlm., gals. 649,990 78,000	Ptlm., gals Mf. iron, pkgs
Same time in 1873 Same time in 1872	17,695,82 9,825,98	Havre.	Hdw., pgs
	USIVE OF SPECIE.	Ag. imp., pkgs 232 6,933 Mf iron, pkge 2 250 Ptlm., gais.332,605 23,422	Zinc, casks
For the week ender	1881. 188s.	Hdw., cs 98 400	Pumps, pkgs.
Total \$8,196,0 Prev. reported. 100,187.	954 \$6,532,692 \$6,006,28 454 223,666,375 92,284,370	Sew. ma., cae. ce 700	Revolvers. cs.
Nince Jan 1\$108,384,	408 \$120,199,067 \$98,190,491	DOW. IIIM., CO., 3 100	
	OPTE	Ag.imp.,pkgs. 164 5,400	Lead, rolls Cutlery, cs Copper, cse
Bardware,	ORTS Order,	Mach'y, pkgs. 64 6,162 Mf. iron, pkgs 23 399	Guns, cs
Berbecker Jul. & Co.	Fig. tons, 3734 Spiegel, tons, 73s	Clocks, pkgs., 454 9,473	Y. metal, es
Bloomfield J. C. & Co. Machinery, cs., 5	Ore, cks., a Bars, 4127 Ore, tons, 346s	W. mile. cv. 15 1.000	Carbines, cs Qcksilver, fika
Machinery, pcs., 9 Castro D. de,	Rods, pkgs., 10.65s	Hdw . pkgs x7 1.850	Cop. tubes, bdl Iron, pkgs
Degrauw, Aymar & Co.	Old iron, tons, 200 Wire rods, pkgs., 494 Scrap, tons, 4081	Ptim., gais. 378,987 26,210 I. r g'ds., pkgs 4 1,195 Pistols, ese 1 113	Water valves. Steel, pkgs
Chains, 4 Chains, cks., 3 Delamater C. H. & Co.	Scrap, tons, 408 4 Scrap, kg., 784.322 Wire rods, bdis, x579	Hull.	Dunki
Field Alfred & Co.	Old fish pits., tons, 30 Flauge rails, 7253 Wire, bdls., 7508	Ag. imp., p78. 268 5,150 Hdw., pkg 106 4,062 L r. gds., co 5 287	Ptlm., gais.si8
Cases, 3 Chains, cks., 9	Drawing pits.,cs., 5	London.	Clocks, pkgs Mach'y, pkgs.
Folsom H. & D. Arms, cs., 2 Frasse P. A. & Co.	Steel. Baring Bros. & Co.	Mf. iron, pkgs 36 2,939 Ptlm., gals. 789,630 63,902	Pasag
Caso r	Brown Brog. & Co.	Guns, cse 1 93 I. r. gds., pgs. 11 2,032 Heel shaves 2 500	Ptlm., gals. 173
Ghiglione Angelo, Machinery, cs., 11 Kursheedt Mig. Co.	Rods, bdls, 669 Brown Wm.	Mach'w nkgs 14 1.200	Pumps pkge. Hdw., pgs
Merchandise, case, r Krusdelbach Fr. Spinning machine,	Bundles, 107 Cases, 2 Daval H. R.	Ag. im., pkgs. 335 14,352 Hdw., pkgs. 142 9,474 Ore, keg 50 Sew. ms., cs. 927 24,368	Cutlery, cs
Case, 1 Markt & Co.	Plates, 52 Cases, 7	Sew. ma., cs 927 24,308 Carbines, cs 9 1,500 Clocks, pkgs 218 8,276 Arms, cs 2 275	Naph.,gals.185,
Morris L. W.	Bundles, 16 Bands, 184	Arms, cs 2 275 Spelter, slabs, 1945 5,840	Cette.
Moore's Sons J. P.	Blooms, 1385 Knoblauch & Lichten-	Antwerp.	Ptim., gals. 161,
Merchandise, cs., 2 Navarro & Numoz, Ironware, cse., 1	stein, Blooms, 2875	Naph.,gals.168,538 11,800 Hdw. pkgs 22 409	Ptim., gals.131.
Patton, Vickers & Co. Machinery, case, 1	Morton, Bliss & Co. Ratis, 1200 N. Y. Central R. R. Co.	Mf. iron, pkgs 2 345	Lisbes Iron boiler
Machinery, cse., z	Rails, 1819 Woodford W. O.	Sew. ma., cs., 285 5,228 Mf. iron, pkgs 2 550	W. mills, cs Mach'y, pkgs.
Rogers Helmy, Cases, 4 Schuyler & Duane,	Bundles, 260	Ox. zinc, bbls. 100 952	Ptlm., gals7
Schoverling, Daly &	Cases, 4 Plates, 59	Ag. imppkgs 5 115 Cartridges,cse 1 40	Clocks, pkgs :
Gales Guns, cs., 11	Blooms, 448s	British Australia.	Sew. ma., cs
Steinhardt A. & Bros. Case, z Strasburger Oscar & Co.	Forgings, 98 Bars, 17 Bundles, 43	Hdw., cs 6 sio	Constantin Ptlm., gals. 139,
Cases, 10 Taylor Thos.	UBL. Dossemer wire.	Hdw., pkgs 8 272 Clocks, bzs 19 750	Legher
Cask, z	rings, 1034 Car-wheel tires, 45 Rods, bdis., 9457	Ptlm., gals 247.450 10,796 Ptlm., gals. 154,968 11,682	Ag. imp., pkgs Japan
Wom Cleff & Co.	Wire, pkgs., 4412	Nails, bxs 5 195 British North Amer-	Ptlm., gals.373.0
Ironware, cs., 10 Case, 1 Wiebusch, Hilger & Co.	Rods, pkgs., 307	toan Colonies.	Ag. imp.,pkge Ptlm., gals8:
Windmuller L. &	Alkman J. & Co.	Mf. iron, pkgs s 235 Ptlm., gals2500 275 Hdw., pkgs 61 1,070	Mr. iron, pkgs
m 15	Tin plates, bxs., s9	The second secon	Needles, pkge Nails, kegs
Arms, cs., 9	Ansbacher A. Quicksilver, bottles.	Gibraltar.	Hdw. pkgs
Arms, cs., 9 Winchester Arms Co. Cases, 8	Quicksilver, bottles, 100 Ballscle & Co.	Clocks, pgs 18 357 Mf. iron, pkge. 1 25	Urugua
Arms, cs., 9 Winchester Arms Co. Cases, 8 Arms. case, 1 Witte John G. & Bro. Optical instruments,	Quicksilver, bottles, 100 Ballscle & Co.	Clocks, pgs 18 357 Mf. iron, pkge. 1 25 British West Indies.	Urugua Hdw., pkge Sew. ma cs
Arms, Cs., \$\phi\$ Winchester Arms Co. Cases, \$\frac{8}{Arms, Case, \$\text{\$\text{\$r}}\$} Arms, Case, \$\text{\$\text{\$r}}\$ Co. Optical instruments, case, \$\text{\$\text{\$r}}\$ Cutlery, cs., \$\text{\$\text{\$r}}\$	Quicksilver, bottles, zoo Ballscle & Co. Old copper, bxs., 28 Old plates, 4 Old brass, toe., z Old brass, bhl. r	Clocks, pgs 18 357 Mf. iron,pkge. 1 25 British West Indies. Cutlery, cs 2 108 Hdw., pgs 27 1,007	Urugua Hdw., pkge Sew. ma cs Cutlery, box. Nails, pkgs
Arms, cs., 9 Winchester Arms Co. Cases, 8 Arms, case, 1 Witte John G. & Bro. Optical instruments, case, 1	Quicksilver, bottles, 100 Ballscle & Co.	Clocks, pgs 18 357 Mf. iron, pkge. 1 25 British West Indies. Cullery, cs 2 108 Hdw., pgs 77 1,097 Nalls, kogs 135 542 Ag. imp., pkgs 3 102 Mach'y, bkgs 22 531	Urugua Hdw., pkge Sew. ma cs

Order, Machinery, pkgs., 28

Iron.

Baring Bros. & Co.
Wire rods. c.uls., 48s
Pigs, tons. cog
Brown Bros. & Co.
Wire rods, bdls., 1012
Bond, Parsons & Co.
Bundles, 275
Crocker Bros.
Pig. tons, 670
Spiegel, tons, 225/4
Drexel, Morgan & Co.
Rods, pgs., 1928
Duval H. R.
Pig. tons, 100

Duval H. R.
Pig. tons, 100

Mill Edward,
Oxide, cks, 40

Irwin, Richard & Co.
Pig. tons, 200

Lee James & Co.
Pig. tons, 465

Lundberg Gust.

Bundles, 538

Bars, 2515

Coils, 202

Montgomery & Co.

Coils, 202
Montgometry & Co.
Wire, pkgs., 22
Naylor, Benzon & Co.
Bundles, 1:6
N. Y. Central R. R. Co.
Rails, 1497
Pim, Forwood & Co.
Bundles, 2:0
Rivets, keg., 1
Quebec Steamship Co.
Anchors, 2

Anchors, 2 Sanderson & Son, Bars, 5709 Wood, Niebuhr & Co. Rods, pkgs., 593

PHILADELPHIA.

189

Cutlery, cs....
Hdw. pgs...
Nails, kogs...
Ag. imp., pkgs
Mach'y, µkgs.
Revolvers, cs.
Sew. ma., cs.
I. r. goods, cs.
Iron, pkgs...
Clocke, bxs...
Nails cs.

Pet., gals...18,215 Mf. iron, pkgs. 78 Cartridges, cs 9

sew. ma., cse.

Mach'y, pkgs. Hdw., pkgs...

British Guiana.

Zinc, pkgs., 3 Bruce & Cook, Tin plates, bxs., 227 Dickerson, Van Dusen & Co.

Co.
Antimony, cks., 17
The plates, bxs., 1350
Ewell Jas. W. & Co.
Comp. metal, lot, 16
Great Western Disp. Co.
Zinc, cks., 20
Spelter, cks., 57
Hatton, Watson & Co
Gopper sheathing,
cask, 17
Heuermann W.
Zinc dust cks.

Zinc dust, cks., *4
King E. J & Sons,

Zinc. r.kgs, 5 Lalance & Grosjean, Cases, 2

Tiffany C. L. Bronze

Office of The Iron Age, 22c South Fourth st., PHILADELPHIA, April 24, 1882.

Cases, 2 Johnson & Co.
Co. Old metal, blbs, 18
Old metal, pipes, 11
Brass bells, 5
Meyer G. A. & E.
Oxide of zinc, bbls., Pig Iron.-The market has shown con siderable steadiness during the past week, which, in view of complaints from other departments, is somewhat surprising. It is Phelps, Dodge & Co.
Tin plates, brs., 1805
Black tag'rs, brs., 59
Patton, Vickers & Co.
Antimony, chr., 10
Pfizer Chas. & Co.
Quicksilver, bottles, we near of sales in lots of 67/2¢ \$\overline{P}\$ foot, met, and 0il Woll Tubing at \$\overline{A}\$ for \$\over fact, nevertheless, that the demand for Bronze, cs., 7 Order. Tin plates, bxs., 4210 Lead, pigs, 1654 Antimony, cks., 100 Quicksilver, bottles,

inferred that it is only a question of time when the raw material will be similarly affected. As regards outside influences, Iron, Machinery, Metals, affected. As regards outside influences, there is little of an encouraging nature to be seen. The stock market continues feverish and weak, with an evident lack of confidence among capitalists. Labor Port of New York, for the difficulties are cropping out here and there, notwithstanding the gradual slackening up of business. The bright spots appear to be in the promise of good crops, as well as in the remarkable influx of the best class of immigrants; but, in any event, the chances are that there will be several weeks, if not months, before the position is fully assured. In the meantime there is a determination to suppress whatever may be of a speculative character, so that if business is going to be dull for a while, it will be freer from risks than usual, and if no money is made, the losses will be reduced to a minimum. quiries have been more numerous during the past few days, showing that consumers are in need of stock, and good buying is expected during the coming month. For prompt during the coming month. For delivery (and little else is asked for), during the coming month. For prompt delivery (and little else is asked for), \$23.50 (\$25.50 at furnace is quoted for No. 1 Foundry, with the majority of sales on the basis of \$24, although special brands command \$24.50 (\$25.50, according to character. No. 2 Foundry sells at \$22 (\$22.50 at furnace, and Gray Forge at \$21.50 (\$23, the best makes being firmly held at \$22 and nuward. For deliveries during the summer. the best makes being firmly held at \$22 and upward. For deliveries during the summer months, lower prices would be accepted, but as there is no disposition to buy, the policy of asking full prices for small lots is adopted, concessions being offered only when an order is likely to be increased by inducements of that kind. Hence it will be seen that although stocks are light and there is a good depend for small lots, the tendency of good demand for small lots, the tendency of that it costs a good deal more to live than it prices is downward, in anticipation of a condid a year ago, and this being the case, it is siderable falling off in consumption during the summer months. Nails, kegs.... 100 357 Ptlm., gals...13,500 1,430

Bessemer Iron.-We have not heard of any new business, and \$24.50 @ \$25.50 may be regarded as nominal quotations. Con-sumers manifest very little interest in the market, and on the whole the tendency is toward lower prices, especially for the de-ferred deliveries. German Spiegel sold to the extent of 2500 tons at about \$29. Other descriptions of foreign Iron are entirely

Muck Bars .- The market is dull, and large lots difficult to move unless at concessions from former quotations. Holders ask \$42 @ \$43, with sales at both quotations.

Blooms—Are steady and unchanged as follows: Charcoal Blooms, \$75; Run-out Anthracite, \$62.50 @ \$65; Scrap Blooms, \$55, and Northern Ore Blooms, \$50.

Bar Iron .- There is little to be said ex cept that business is dull, and prices weak and drooping. New orders are scarce, and such as are offered are for small lots, prompt delivery. Some of the mills have work enough on hand to employ them for three or four weeks, but the majority are running from hand to mouth on such orders as can be picked up from time to time. Prices are, therefore, weak and lower, with no immediate prospect of improvement, although consumption appears to be almost as large as ever. There is a disposition to clean up stocks to the smallest compass possible, so that if consumption can be maintained it is only a question of time when the market will again resume its activity. Skelp Iron has been taken to the extent of probably tons, but prices are believed to have b very low. It is offered at 2.7¢ @ 2.75¢, but it is likely that orders have been placed at less money,

Plate and Tank Iron.—The market continues dull and unsettled, with prices still drooping. Nominally there is no change, but it is impossible to effect sales in quantity, even if large concessions are offered. Lots of 10 to 50 tons each have been placed, but quotations have been cut one or two tenths cording to size of order. For the usual run according to size of order. For the usual run of business prices are about as follows: 3¢ @ 3.15¢ for Tank Iron; 3.5¢ @ 3.7¢ for Refined; 3.75¢ @ 4¢ for Shell; 5¢ @ 5.25¢ for Flange; and 6¢ @ 6.25¢ for Fire-box.

Structural Iron.—Business continues adderately active at steady and unchanged rices. We have not heard of much new prices. work having been entered of late, but man ufacturers are well situated as regards or ders on hand, and it is likely that the de In the meantime prices are as follows: Angles, 3¢ @ 3.15¢; Beams, 4¢; Channels, 4.2¢; Tees, 4.3¢; and about 3¢ @ 3.2¢ for Bridge Plate.

Sheet Iron.-There is nothing calling for although prices are somewhat irregular for large lots. For the general run of trade For the general run of trade prices may be quoted :

15

Wrought Iron Pipe.-Prices are very irregular, although the demand is active Boiler tubes are quoted at 40 @ 42 1/2 % dis count from list price, and Gas and Steam Pipe 60 @ 62½ %, but in case of large or-ders we hear of additional discounts being allowed.

Steel Rails.-There has been more inquiry, and at the lower range of prices business moves somewhat more freely. Sales have been made at prices varying from \$50 to \$53 at mill, the latter for early deliveries. Orders for large lots can be placed for winter or spring delivery at about \$50, which appears to be an inside rate. The mills are pretty well supplied with work, but there is no difficulty in meeting all requirements within range of the above quotations.

Spikes.—There is not much doing, though we hear of sales once in a while at something less than 3¢. Nominally, holders ask 3¢ for Spikes, and about 2.5¢ for Fish

Old Rails.-There is no demand what ever, and, so far as we can find, there has not been a single sale in this market since date of our last report. There are sellers at \$28 for shipment, but buyers make no

Crop Ends.—There is some inquiry, and negotiations are in progress on the basis of about \$25 for shipment. somewhat freely at \$25.50. ent. They are offered

Bloom Ends.-Several inquiries have been made within the past week, but only one sale made, 700 tons at \$26.75, steamer shipment May and June. Scrap Iron.-The market is dull and

declining, and sales difficult to make. Choice
No. I commands \$31 @ \$32, other descriptions \$28 @ \$30. Cast, \$20 @ \$21.
Nails.—The market is somewhat dull and

prices weak at about \$3.25, net.

PITTSBURGH.

Office of The Iron Age, 77 Fourth Avenue, PITTSBURGH, PA., April 25, 1882. The weather during the past week has been favorable for the growing crops, and a better feeling obtains in business; as intimated in our report of last week, manufacturers are watching the crop reports very closely, realizing that what is good for the farmers is good for the manufacturers. There is an uneasiness manifested in labor circles that is not pleasant to contemplate. All the necessaries of life have been run up so high not strange that mechanics and laboring men are asking for better pay. Unfortu nately, in some branches of trade, Iron and Coal in particular, operators are paying all and even more than the markets for their products justify. No conclusion has been arrived at yet between the mill owners and the Amalgamated Iron Association, but it is hoped and expected that the matter will be amicably adjusted before long.

Pig Iron.—Business has been very dull during the past week, but it is probable there will be an increased demand this week or next, as some of the mills are almost out or next, as some of the mills are almost out of stock and will be obliged to buy, although but very few, if any, consumers feel like anticipating future wants, nor is it to be expected in the present condition of affairs. With a very small business being done, the market is, of course, weak, but there has been no perceptible change in prices since our last report. The few small sales reported were at \$24.50 @ \$25, 4 mos., for Forge, \$25.50 for Silvery, \$26.50 @ \$27.50 for Foundry. Bessemer nominal at \$28 @ \$29, 4 mos. Sales of Cold-blast Charcoal at \$35 @ \$38. One of the most encouraging features of the situation to furnacemen is the comparatively light supply in first hands. comparatively light supply in first hands. Some furnaces are "piling up," but the most of those in blast are still engaged on old contracts, and the offerings are light in consequence. Commission men are making no effort to sell, realizing that a movement in that direction would only make matters not hesitate to do so here, and, while unable to make sales, have, by their persistent ef-forts to sell, done considerable toward weak-No. 1 takes 5 ning our market.

Muck Bar.—The dullness noted for several weeks past continues, and there is scarcely enough doing to establish prices.

While we hear of offers to sell as low as \$41 and \$42.4 At first figures Muck is cheaper relatively as it is claimed than Pig Iron. relatively, so it is claimed, than Pig Iron, and if good reliable makes get down to these figures, some of the mills might be tempted to buy it instead of Pig.

Manufactured Iron.-Some of our man ufacturers report an improved demand dur ing the past week, and we hear of some orders having been placed at full card rates. The impression appears to prevail among some jobbers and consumers that there might possibly be a "lock-out," in which event the market would undoubtedly stiffen; hence their anxiety to previde against the contingency in question. Some of the mills still the state of the miles gency in question. Some of the mills stur gency in question. Some of the mills stur have all they can do, being booked up until the 1st of June, while others are a little slack, and have changed from double to single time. That there has been a falling off in business during the past couple of months is well known, but there is sum a very fair degree of activity, and if the crops turn out well, of which the prospect at present is favorable, there is no good reason why the business of this year should not be equal to that of 1881. The card remains unchanged, on a basis of 21/2 for Bars, but we hear of sales at from 1-10th to 2-10ths under the card.

Nails .- There is a very fair and increase ing business, and the market is firmer. though card rates are not yet obtainable we hear of sales at \$3.10 @ \$3.15, net cash a cut of from 10¢ to 15¢ per keg under card. It is now claimed that some of the large Western jobbers, who had stocked up prior to the last advance, are responsible for the cut in prices. It appears they were selling under the card, and manufacturers had to cut also or lose their trade. It is doubtful whether contracts for future delivery could now be made under card rates, as the market has stiffened up within the past few

Wrought Iron Pipe .--Business continues to improve slowly, and the indications are considered favorable for a good summer trade, which usually commences to open in May. Prices are lower, the discounts on Gas and Steam Pipe having been increased to 65 %. Boiler Tubes unchanged at 42 ½ @ 45 %. Oil-well Casing is quotable at 65 ¢ @ 67 ½ ¢ † foot, met, and Oil Well Tubing at

\$53 @ \$55, cash, delivered at mill. Railway supplies also dull and weaker, although prices are without quotable change. Railway Spikes, 3.15¢; Splice Bars, 2.50¢ @ 2.60¢; Track Bolts, 3.50¢ @ 3.75¢ with square, and 4¢ @ 4.10¢ with hexagon, nuts. There is but comparatively little being done in the pushing of new railroads, and the old ones are not disposed to spend anything like as much for supplies as they did last year.

Steel.—While orders are not coming for.

Steel .- While orders are not coming forvard very freely and are mostly small, the mills generally are pretty well employed and prices are steady. Best brands of Refined prices are steady. Best brands of Refined Cast Steel, 12¢; ditto Crucible Machinery, 3¢; Bessemer and Open-hearth ditto, 5¢; Bessemer and Open-hearth Spring, 5½¢; Cast Spring Steel, 7½¢; Steel Boiler Plate, 61/4 @ 74.

Scrap —No. 1 Wrought Scrap \$30 P net ton for ordinary, and \$31 @ \$32 for Selected Railway; Car Springs and Car Axles, \$38 @ \$40; Wrought Turnings, \$22 @ \$23; Cast Borings, \$15 @ \$16, gross, and Car Wheels Borings, \$15 @ \$16, gross, and Car quotable at \$27 @ \$29, gross. Dea report business as being very dull. Dealers all

Window Glass.—There has been very ttle change in the situation during the past week. It is rather early for the active season to open up, but manufacturers generally are sanguine of a good summer and fall trade, and are busily engaged in working up an assorted stock with which to meet the same. No change in card or discounts. far as we can learn, full card rates are being

Coke.—The activity noted for some time past continues, and prices are steady, at \$1.75 @ \$2 per ton, delivered free on cars at ovens. The shipments out of the producing region continue large, estimated, numbers, at from 60,000 to 70,000 tons per week. The expansion of this important interest has been wonderful within the last few years.

Coal. - This important Pittsburgh interest continues very unsatisfactory, with but little prospect of any immediate improve-ment. The down-river markets are all overstocked, and prices below lay-down cos The price of mining paid river operators remains unchanged, at 4ϕ ; some of the railroad miners are working for $3\frac{1}{2}\phi$.

CHICAGO.

Office of The Iron Age, 36 and 38 Clark Street, cor. Lake Street, CHICAGO. April 24, 1882. Hardware.—The demand for Hardware

in general is good, builders' hardware more so than any other, and the market indicates a firm feeling generally.

We have received from Messrs. Hubbard, Spencer, Bartlett & Co. their new catalogue Spencer, Bartlett & Co. their new catalogue and price list for 1882, illustrating a selected line of Statuary, Bronze Metal and imitation Bronze Builders' Hardware. The catalogue has 64 pages printed on fine paper, and is gotten up in very good style. They will be pleased to mail copy of this catalogue to dealers who are not already supplied.

Messrs. C. W. Kimball & Co., 138 Lake street, have just issued catalogue and price

hesers. C. W. Kimoan & Co., 138 Lake street, have just issued catalogue and price list of Belting, Hose, Packing, Mill Supplies, &c. Among the goods mentioned in catalogue, and which they control, are the Holly Hose Cart. The main feature of this cart is worse. Scarcely a week passes, however, but what there are brokers here from other points who, while unwilling to do anything calculated to break their home markets, do not hesitate to do so here, and, while unable to make sales, have, by their persistent ef-

goods as follows :

PRICE LIST OF WILSON'S PATENT BELT HOOKS.

8	ingle l	Leather.	enta.	1	Do	oble	Leat	her.	
			ents.					Cen	158.
For a	inch	Belts	3	For	134	inch	Belt		6
46 g	K *0	46	4	40	2	0.0	0.0		8
66 .	2 68	6.6		44	016	60	60		0
64	2 11	44	536		-22	66	44		10
45 0	60	66	6	54	-/3	*6	86		**
06 01	10 00	44	-	88	334	66	90	****	14
0	2 10	60	6	-		-	L .	****	24
86 -1	68	44						bber.	
14 37	4 44	44	9	For		inch	Belt	B	10
. 3	e 44	64	10	**	375	9.0	94	0.01	IS
44 37	3 44	46 **	10%	86	3	- 66	44-		XS
37	9 44	49	8.8		Siw.	Ply	Decks	ham	-
- 4	**	**	13	For	a de	ob B	o.ltm		-9
				3 1				th fo	70
					- 3	fain	Beil	Secret	
				For	a in	ch B	elts.		90
				96	9	19	6.0	1	-
			-				0.1		*3

33% % off in lots of 100 and over. The Perfection Window Cleaner Co to whose advertisement upon another page we would invite attention, in a card to the trade say that their price list for 1882 will

No. 1 2 3 4 5 6
Sise, inches..... 7 8 20 22 14 18
Price, cents..... 30 35 40 45 50 75 each. Discounts.- 1 gross, 25 \$; 5, 30 \$; 10, 35 \$.

Nails.-The trade in Nails during the week has been excellent, and quotations, as a rule, are firmly adhered to by dealers. We quote, for rod. to 6od., \$3.40 @ \$3.50.

Pig Iron.-We have no change to note since our last report. Orders continue numerous in a small way, and quotations are firm, except on the softer grades, which have a slight downward tendency. We quote: Lake Superior Charcoal, Nos. 1 and 2, \$31 @ \$32; No. 3, \$33; Nos. 4, 5 and 6, \$34 @ \$36; Calumet, \$28 @ \$29; Silvery Soft, \$26 @ \$27; Crane, No. 1, \$29; No. 2, \$28.50; Thomas, \$28.50 @ \$30; Imported Seotch, \$30 @ \$31, and American Scotch, \$27 @ \$30.

Manufactured Iron.-The demand for Manufactured Iron.—The demand for Manufactured Iron continues to improve and quotations are fairly maintained. We quote: Bar, 2.90¢ @ 3¢; Angle, 4¢; T, 4½¢; Beams and Channels, 4½¢ @ 4½¢; Hoop at 3.80¢ rates. Sheet, Plate and Tank, 10 to 14 gauge, 3.80¢; 15 to 17 4.10¢; 18 to 21 ditto, 4.40¢; 22 ditto.

past week, while our quotations are being fully maintained. We quote: Tool, 12¢; Machinery, O. H., 5½¢; Crucible Machinery, 7¢; Hammer, 2 inches and under, 8¢; over 2 inches, 9¢; Cast Spring, 7¢, and O. H. Spring, Tire and Sleigh Shoe, 5¢. Sheet, first, second and third quality, 12¢, 10½¢ and 8½¢, respectively; Crucible Plow, 6¾¢; Eagle Plow, 5½¢; Iron Center Plow, 10¾¢, and soft Steel Center Plow, 10¾¢.

Seran Iron.—The demand for Scran

soft Steel Center Flow, 10 % 9.

Scrap Iron.—The demand for Scrap
Iron continues to be very light. We
quote (dealers' purchasing prices): No.
I Wrought Scrap, \$23, net ton; No. I
Railroad Scrap, \$24 @ \$25; ditto Heavy
Cast, \$18; ditto Stove Plate, \$12; ditto
Cast-iron Borings, \$9 @ \$10, and ditto
Machine Shep Turnings, \$12 @ \$13.

CHATTANOOGA.

Office of The Iron Age, Market and 3th Sts., } CHATTANOOGA, April 24, 1882. }

Business in the Southern section continues fair; there is less damage by overflow than was fair; there is less damage by overflow than was estimated when the water was on by at least two-thirds. In fact, there will be nearly a full crop made on those overflowed lands both in cotton and sugar, though the latter has been most damaged. There is general caution in this section growing out of labor troubles inaugurated or impending in the North. The weather for the week has been read and blacters; ending with heavy rains. cool and blustery, ending with heavy rains and thunder. The fruit crop will be full un-

great amounts of any grade in the district, and current orders are quite sufficient to consume the output. Here and there a few tons may be found in store, but the rule is that yards and furnace banks are about bare. There have been no sales that indicate lower curetations. There have been no sales that indicate lower quotations. We quote: No. 1 Foundry, \$24 @ \$25; No. 2 Foundry, \$22 @ \$23; Gray Forge, \$20 @ \$21; White and Mottled, \$19 @ \$20; Car-wheel Metal, \$33 @ \$37.

Ores.—We have nothing of interest to report of the Ore market. We quote: 50 % Brown Hematite, \$\frac{1}{2}\$ ton, \$2 @ \$2.75; Red Fossil, \$2 @ \$2.25, delivered at furnace.

Miscellaneous Articles .- Old Rails are steady at \$29: Wrought Scraps, \$20 @ \$23; Cast Scrap, \$13 @ \$15; Old Wheels, \$28 @

Manufactured Iren.—Bar continues steady at \$2.50 for large bills. Mills are running full, with a very fair outlook for summer trade. Track fittings are steady. We quote: Railroad Spikes, \$3.40; Track Bolts, \$4; Fish Plate, \$3.

Coal.—We quote Fancy Lump, \$3.50; ommon, \$2.50; Run of Mine, at mills, \$2. Coke.—We quote: Furnace Coke, \$3 at point of consumption; Foundry, 10¢ @ 12¢ bushel.

Steel and Iron Rails .- Steel is fairly quotable at about \$58 as an outside figure. Iron Bars, nominal, at \$48, Heavy Sections; Small T, \$53 @ \$55.

LOUISVILLE.

W. B. BEINNAP & Co., Iron and Steel Merchants, Nos. 113 and 115 Main street, report to us as follows, under date of April 22, 1882: Inquiry for Finished Iron has been more active for a week past. The mills have been making some capital out of the prospective labor troubles in Pennsylvania to secure orders for immediate delivery. prospective labor troubles in Pennsylvania to secure orders for immediate delivery. Contracts are generally limited by May 31st, and buyers must trim their cloth accord-ingly. Had it not been for this agitation, prices must have receded further than they did. Hoop manufacturers have reduced id. Hoop manufacturers have reduced their quotations some \$4 \$\text{\$\ext{\$\ext{\$\text{\$\ext{\$\text{\$\exititt{\$\text{\$\exititt{\$\text{\$\text{\$\text{\$\text{\$\exitit{\$\text{\$\text{\$\text{\$\tex{ went advised, in view of the market's condition. Nails are selling freely, but at weak-ening prices. The good mills have held quite firm to card, but some, whose brands are not so much sought after, have, doubtless, been obliged to offer inducements, hence the somewhat demoralized prices. Hardware generally is going off well. Building is active.

MESSES. GEO. H. HULL & Co., Commission Merchants, report to us as follows, under date of April 22, 1882: There is considerable inquiry for Hot-blast Iron, and some large sales have been made for delivery running through the next 12 months. Prices indicate a decline of about \$2.50 @ \$3 \$7\$ ton from the highest point reached in January. from the highest point Car-wheel Irons are still dull and cannot be sold except at considerable sacrifice.

No. 1 Hanging Rock, Charcoal \$27.00 @ 28.00
Wo . Southern Charcoal \$5.00 @ 90.00
No. 1 Hanging Bock, Stonecoal and
Floke \$4.00 th #5.00
So. 1 Southern, Stonecoal and Coke. 84.00 @ 54.50
80. s " " as.50 @ s3.00
"American Scotch" 33.00 @ 84.00
Open Silver Gray
Close Silver Gray \$1.00 @ 22.00
WHEL TRONS.
No. 1 Charcoal
No. 1 Stonecoal and Coke, Neutral 22.00 @ 23.00
No. s Stonecoal and Coke, Neutral 91.50 (3 23.00
No. 1, Stonecoal and Coke, Cold-short. 21.50 @ 22 50
No. a. Stonecoal and Coke, Cold-short. MI.00 @ MI.50
White and Mottled, Cold-short and
Neutral 19.09 6 20.00
CAR WHERL IRONS.
Hanging Bock, Cold-blast 35.00 6 37.00
Hanging Rock, W. B 30.00 @ 31.00
Alabama and Georgia, Warm and
Cald blast 29.00 (E 19.00)
Central Kentucky, Cold-blast 32.00 (33.00)

CINCINNATI.

APAIL \$4,-Pig Iron.-The market remains inactive, transactions in the past week have been confined mostly to sales for immediate been confined mostly to sales for immediate uses, the exception reported being sales of some 4000 tons Forge Iron on private terms to one of the prominent Nail mills in this region, and for deliveries May, June and July. Late in the past week some inquiry has been made for Charcoal Irons to go West, on which prices are held somewhat firmly. The lower grades Stonecoal and Coke kinds have lately been offered freely, and some

Hanging Ro	ck Char, Fou	ndry	\$2	8.00 €	3 2	9.50
		No.	2 3	7.00 6	B 2	8, 40
Tennessee a	nd Alabama,	No. 1	3	6.50 6	8 2	7.50
64	66	No. 2	3	5.50 6	2 3	6.00
14	84	Coke, No				
45	64					
- 66	46	Forge				
Hanging Po	ck "Arn. Scot	oh II Mo			w .	6
Tranging 100	CR AJU, SCOI	ELL, NO.	1 1	5.50	9 7	0.00
0.0	11 Am. 35	NO.	3 . 3	4.50	9 3	5.00
61	"Am. Mac	пу		4.00	ழ 2	5.00
	Sil. Gray "	Sortener		13.50 (D 2	5,00
Cold-blast C	harcoal Car-	wheel	3	4 00 (3	8.50
Warm-blast	Charcoal Car	r-wheel	5	8.00 (B 3	0,00
Charcoal He	ammered Blo	oms	5	0.00	0 5	5.00
Cotton Tie S	crap Hamme	ered bloo	ms 5	4.00 (a 6	0,00
1	- SCRAP	IRON.				
D. H. and T.	Rails		9	8.00 (a 2	0.00

Ar. AA. MING A. AMBING.				0.0	0 0 1		, 20,0	D 40 30.00
No. 1 Wrought							. 1.30	0 0 1.50
Country							. X. TO	0 6 1.30
No. 1 Cast							0.9	0 @ 1.00
No. 2 and Light							0 5	0.80
Scrap Car-wheels.				0.1				. @ 28.50
Bar Iron-\$2.6	50	CE	ard	ra	to,	con	cessio	on made
on round lote	747	Tond	70-		9 8	0.00	rd ra	to con-

MESSES. HOFFER, PLUMB & Co., Pig Iron and Iron Ore Merchants, 417 Pine street, write us, under date of April 22, 1882: Quietness is still the order of the day. Quoand thunder. The fruit crop will be full unless there are accidents to come.

Pig Iron.—There is really nothing new
to say of the business in Pig. There are no
great amounts of any grade in the district,
which, of course, are somewhat lower. We
quote:

		HOT BI	LAST CE	LARCOAL.		
Misse	ourl		******		\$26.00 \$	2 27 00
Cano					. 30.00 V	P 10'0'
Sout	hern.	******	******	*******	26.00 (3 27.CC
		COA	L AND	COKE.		
Misse	ouri				None of	Tering
Ohio					#6,00 €	\$ 27.00
		MI	LL IRO	HB.		
Red-	short				. 96.00 (B
Neut	ral				. 24.00 (\$ 25.00
	CAR	WHERL A	ND MA	LEBRIL	IRONA.	
Misso	ouri				28.0e (3 20.00
Sout	bern				39.00 (37.0
Ohio	******				30,00 (₹ 38.00

BALTIMORE.

Cast Scrap, \$13 @ \$15; Old Wheels, \$28 @ \$29.

Nails,—The Western Nail Association reaffirmed the card at \$3.40, but at that moment members of it were pushing Nails into this market at \$3.30, laid down. We quote at \$3.30 rates, job lots, usual excess for small bills from stores.

BALTIMORE.

W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, reports us the following, under date of April 24, 1882: Trade rules quiet and unchanged for the past week. Demand seems only to supply early wants, with values weak and undersold:

\$3.30 rates, job lots, usual excess for small bills from stores.

-1	" I to 41/4 X 11/4 tos W D a 7-10 @ a 9	204
Л	" to s, Round	,
Н		
	and Square	304
ч	Hoop Iron, 116 wide and upward " 156 65	340
6	Band Iron, from 11/4 to 4 in, wide " 3 @	1/4
ч	Horse-shoe Iron " 31/ 0	
А		
П	Norway Nail Rods 5% (b)	
9	Black Diamond Cast Steel " 13% @ 14	364
	Machinery Steel " 9 & 9	36.0
	Cast Spring Steel " 8 @ i	360
	Common Horse Nails "19 @ 14	
	Railroad spikes, 51/4 x 9-16 " 31/4 @ 3	364
1	Perkins' Horse shoes W keg of 100 lbs\$4.8	736
ij	14 Mule shoes 5.6	756

R. C. HOFFMAN & Co., Iron and Commis

Virginia (), B, V	V ho	el Iro	m.			 	35.00 @	
Anthracit	e No.	1				**	 	20.00 @	27.
60	No	2					 	24.00 @	25.
66	No	3					 	28.00 @	23.
44	Mot	led	and	W	bit		 	30.00	20.
Charcoal	C. B	Bloc	oms.				 	70.00 @	75.
Refined B	looms						 	60.00 @	65.
			_		_				

RICHMOND.

Mn. Asa SETDER, Iron Merchant and Furnace Agent, writes as follows, under date of April 24, 1882: Nothing new has developed in the trade during the past week. Continue

to quote as tonows .		
No. 1 Seasch Pig Iron		
No. z Anthracite Pig Iron	27.00	CB 29.0
No. s "		
No. 3 "		@ \$3.5
No. z Virginia Coke Pig Iron		
No. 2		
No. 3 " "	30.00	@ 23 c
Virginia Charcoal C. B. Wheel Iron		
Old Rails.		
Wrought Scrap, No. 1		
Cast, Machinery Scrap		
Refined Bar Iron		
Horse Shoes (Tredegar)		
Mule "		S.O.

No. 1 Authracite Pig Iron. 2,000 2,000 No. 2 2,000 No. 2 3,000 No.

(Result III.)

BRUSSELS. April 9, 1852.—Fron.—The slight improvement latterly alluded to has vanished again there being a good deal of complaint of a lack of freeh orders of importance, those still being filled and dropping in being very moderate in size. We

are glad to say that at this juncture the Govern ment has come forward at least, with an adjudication of 2000 to 3000 freight cars, to come off at the end of the current month. At Charlerol, Pig Iron, meanwhile, has deel ned to the range of 5 70 \$6.35 franes; at Luxembourg it remains sustained at 6 \$6.50, in consequence of the German demand. Merchant Iron sells with tolerable steadiness at 13.50, and in a few cases up to 12.75 \$\omega\$ 14. Beams are worth 15, and Corners, 15.50; Sheet Iron may be quoted 18 \$2.50, while No. 3 for boilers can be had at 20; fine Sheets are better held. At the Cockerill shippards and ironworks a good many Iron steamers are turned out at present, a dry dock capable of receiving steamers 350 feet in length is being built, and Cockerill now gets his Iron Ore by his own steamers direct from Spain and Algeria, but he also takes it on freight for other makers. It is much to be hoped that the activity and enterprise shown by Cockerill may serve as an example to other Belgian concerns, and that our steamship lines may multiply in Transatiantic traffic, for if we do not bestir ourselves and try to do more of an export trade our Iron industry will be choked by its own plethora of productiveness. Metals—Have been steady; we quote Copper, tough Ingot 174 francs \$2.50, and Spelter, 43, Coal.—The demand remains brisk for industrial Coal; we quote \$2.50, and Half Washed ditto, 27 francs. are glad to say that at this juncture the Govern ment has come forward, at least, with an adjudi

WEHNART.

HAMBURG, April 9, 1828.—Iron.—Our Dortmund correspondent expresses himself to the following effect: "No particular change has been noticed during the week. Fig Iron still tends downward, especially puddling. People from Siegen have been here offering such of prime quality at 65 marks, without placing any. The rolling mills prefer to wait, the more so as it leaks out now that several of them have not yet sold to their full capacity for the second quarter. Merchant Iron is remarkably quiet; only a few orders are dropping in for the same, while on old contracts specifications come in slowly. Thin sheets are particularly weak, but coarse ones and drawn wire remain in active request. All sheets are fully sustained in price, and makers require as much time as possible for delivery; hence, both England and Belgium have been resorted to. From England, soo tons boiler and tank sheets have been offered at 150 marks, cost, freight and insurance, at Rotterdam, which is cheaper than obtainable, same quality, from our own rolling mills. The Bessemer and Thomas Steel Works are still busy; this may also be said of the locomotive and car works, and the axle and car-wheel shops. Hardware manufacturers have still got a goodly amount of orders to fill, and this is the case to an equal extent with steam boiler shops, and many machinists' establishments. As regards foundries and bridge building works, it may be said that most of them complain of insufficient occupation. We quote here coarse Sheets, 37 60 220 marks for prime quality; Rod Iron, nominally, 135, although a few makers still ask 140 62 220 marks for prime quality; Rod Iron, nominally, 135, although a few makers still ask 140 62 220 marks for prime quality; Rod Iron, nominally, 136, although industrial Coal and Coke still move off tolerably well." Metals—Have as a general thing been rather weak. Lead is quiet but steady; English at 16 62 16,50; German, 14 50 215, and Spanish 13 62 18,40. Copper is duller. We quote: Silesian, on the spot and to arrive, 13.55 0 15.50.

(Cologne (Jasette.)

Cologne Gasette.)

Dussm.cos. April 8, 1832.—Iron. — But little change has occurred in this vicinity; the Luxembourg blast furnaces are very busy and maintain their rates with great firmness, while those of Rhenish Westphalia have sold their make till July 1. A weaker feeling is started from the Siegen district, where the duliness at the fine sheet rolling mills depresses puddling Pig. For this reason the remaining Rhenish Whostphalian blast furnaces have sold currently small quantities outside of old subsisting contracts at slightly shaded rates. Total German Pig Iron production last year, 2,066.571 tons, against 2,729,039 in 1880, being an increase of 6% % only, while in England the same has been \$%, and in France, 3% %. Compared with 1879 the increase has been in Germany, 30% %; in England, 30% %, and in France, 35% %. We quote to-day in marks \$\frac{1}{2}\$ ton: Prime Spiegel, 78 & 8 ; prime Gray Pig. 56 & 66: Luxembourg ditto, 40,50: Charcoal Pig. \$% 90: Foundry, 65 & 75; English Bessemer at port of shipment, 55 & 56; German Bessemer, 68, and Sheet Irou, 185 & 1822.

(Koch & Flierboom.)

Rotterdam, April 6, 1883.—Tin.—The market has been quite irregular during the week under review, being subjected to extreme fluctuations. The unfavorable statistical position of the metal has discouraged many holders; there has consequently been great pressure to get rid of it, resulting in a precipitate decline from 65,50 guilders \$6,00 kg. to 63. This latter figure has finally attracted buyers, causing a rebound to 64.50. But this im provement has been of short duration, sales have been liberal, and it can now be had at 64. The confidence hitherto shown has been very much shaken,

AUSTRIA. (Austrian Trade Journal.)

(Hessensuer & Co.)

Colombo. March s1, 1882.—Plumbago.—There has been some business doing during the fort-sight, but the market closes quiet. We quote \$\fo\$ ton, in rupees: Fine Lump, 10 & 765; Ordinary, 134 & 140; Chips, 10 & 80; and Dust, 50 & 55. Shipments to all quarters from October 1 to March 16 have been 03,170 cwts., against 64,478 in 1881; \$0,005 in 1880 and 44,985 in 1879. Exchange, 1834.

The new shops of the Champion Machine Company, Springfield, Ohio, are now rapidly nearing completion, being an addition to the old works, which themselves embrace some of the largest shops in the country, and which were commenced about 30 years ago with a capital of only a few hundred ago with a capital of only a few hundred dollars. The main building contains four stories, besides a large basement and attic, and has a frontage of 615 feet; the offices are located in the southwest corner of the building and are fitted up in the most elaborate and elegant style, besides being provided with all modern improvements. The north wing of the building is three stories high and 500 feet long, and is now being extended an additional distance of 500 feet, the foundations for which portion extended an additional distance of 500 feet, the foundations for which portion are at present being laid. This portion will be used as a warehouse. The second wing, four stories high and 500 feet long, is also receiving an extension some 500 feet long. The third wing is of the same length as the others and comprises part of the machine and blacksmith shops. The machine shop portion is four stories high and 260 feet long, the remaining one-story portion being the blacksmith shop. This will also receive an increase in length of 500 feet, thus making the length of the blacksmith shop 740 feet, the entire length of the feet, thus making the length of the blacksmith shop 740 feet, the entire length of the
wing amounting to 1000 feet. The fourth
wing contains the remaining portion of the
machine shop, and is used as a foundry.
After the proposed extensions have been
made, the foundry floor will be 1000 feet
long. The fifth wing is a one-story structure,
and is used as a pattern and experimental
blacksmith shop, its present length being 260
feet, with an L of 100 feet. Each wing is
about 60 feet wide. The boiler and engine
rooms are between the second and third
wings, the chimney being some 160 feet high, wings, the chimney being some 160 feet high, 18 feet wide at the base and 10 feet at the top. The wings are in such connection with the main building that they are easily accessible, facilitating the introduction of fire-extinguishing apparatus, &c. A com-plete and efficient apparatus will be provided, together with a number of men as attendsogether with a number of men as attend-ants, the latter having instructions to be in readiness at a moment's notice Tunnels containing water and hot-air pipes have been constructed beneath all the building, and shutes for the conveyance of dust and dirt shutes for the conveyance of dust and dirt are placed in convenient portions of the establishment. These tunnels are about 10 feet wide and 12 feet deep. The main lines of shafting are placed below the floor, thus considerably increasing the space and capacity of the shops, besides diminishing the dangers to which workmen are ordinarily exposed. In the rear of these buildings the rolling mills are located, consisting of two separate structures, one of which is 800 feet long and 70 feet wide, while the other is 250 feet by 70 feet. The steel works are but a short distance from the rolling mills, being three stories high, 400 feet long, and 60 feet wide. The walls of the different buildings are fire-proof, thus dispelling all anxiety in wide. The walls of the different buildings are fire-proof, thus dispelling all anxiety in regard to a rapid spreading of fire. Tracks are laid in and around the works, greatly facilitating the loading and unloading of cars. A hydraulic elevator of immense proportions is being constructed for the main building, and will be a further addition to the useful appliances with which the works are stocked. We are unable, at this time, to furnish any estimates of the cost of these works, which will give employment to about 3000 men, and the annual capacity of which will probably be about 100,000 harvesting machines. The amount of floor space in the works is 1,472,100 square feet, the space occupied by the old works being 887,735 square feet, making a total of 2,359,835 square feet. The amount of material annually consumed (being based on the consumptive decreases) ally consumed (being based on the consump-

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Screws.																										0,000
Brass W																										6.006

This table will probably give a better indication of the extent of the works than such further description as we might have space

A Singular Disease in Russian Chrome Works.—Under this head, one of our exchanges gives the following account: The manager of the single establishment in Points. ingle estab for the manufacture of chrome, reports a curious disease among his men. He says: "The workmen suffer from the action upon the nose of the dust of bichromate of potash, and the disease manifests itself thus: A little hole is formed on the partition of the nose (dividing the two nostrils) and increases gradually until the partition entirely disappears, with the exception of the lower part of it, so that to a superficial observer there is nothing the mat-ter with the nose, except, perhaps, a little outward depression. It must be remarked that as soon as the partition is gone the process seems to stop there, and neither the lungs, airtubes, nor throat in the are least affected Its influence is very different with different individuals. Some workmen, after baving. been employed for 10 years at the works, remain unaffected, while with others the hole in the nose begins to be formed after one month's work. A general inspection of all the men at the works not long ago, proved that more than 50 per cent of them had diseased noses. When the disease sets in first, diseased noses. When the disease sets in first, the man feels tickling in the nose; a week or so after it bleeds, and in a few days more there is no uncomfortable feeling of any sort, and thus the hole is formed almost without any pain."

Another Exhibition Company .- The American Exposition of 1883 (limited), was incorporated at Albany on the 14th. The object of the concern is to conduct the business involved in holding in 1883 agreat American Exposition or national or international fair, proposed to be held under the auspices of the American Agricultural Association. The

Agricultural Implement Making at Siringfield, Ill.

The new shops of the Champion Machine Company, Springfield, Ohio, are now rapidly nearing completion, being an addition to the

The Iron and Metal Exchange.

Yesterday (Wednesday) at 3 o'clock a meeting of those interested in the proposed Iron and Metal Exchange was held at Delmonico's, No. 2 South William street, to learn what had been done since the last meeting, one week ago. There was a fair attendance and a good deal of interest was manifested. Mr. Edward P. White occupied the chair. The Committee on Signatures reported 110 names, and three names were added by gentlemen present, bringing the total number of those who have signified their intention to join the new Exchange up to their intention to join the new Exchange up to 113. Mr. Flynn, on behalf of the Committee on Charter, reported the draft of articles of incorporation which had been prepared by coursel. He stated that the necessary steps had been taken to apply to the Legislature for a charter, but the committee had been met by the difficulty that persons must be named as incorporators who shall be managers of the association until permanent officers are elected. The committee hesitated to insert these names on their own responsibility, and preferred to ask the meeting to devise some way of naming 15 gentlemen, who shall control the management of the who shall control the management of the affairs of the association until a permanent organization can be effected. The committee also stated that the proposed charter was perfectly constitutional, but that it might be a stated that the proposed charter was perfectly constitutional, but that it might be difficult, or even impossible, to secure its passage during the present session of the Legislature, on account of the pressure of Legislature, on account of the pressure of other business. They suggested, however, that there is nothing to prevent an Exchange from being carried on as an association without a charter, as is the New York Stock Exchange. The charter is in the usual form of such documents. It provides for a number of managers, to serve until successors are elected, and thereafter for one year. The Exchange is authorized to until successors are elected, and thereafter for one year. The Exchange is authorized to own real and personal property, in amount not to exceed \$500,000. It shall have an arbitration committee, with power to arbi-trate between members, and on questions trate between memoers, and on questions of trade interest affecting the interests of members. As a very full abstract of this charter was published in our list issue, it is unnecessary to reprint it here. The report of the Committee on Charter was adopted, of the Committee on Charter was adopted, and a motion was made directing the chair to appoint five gentlemen to name fifteen incorporators, and to insert their names in the charter with full authority. On motion, Mr. Tallmadge Delafield was chosen temporary treasurer, to receive and hold subscriptions from those ready to subscribe at once. This motion was carried, and the question was raised as to what the treasurer would do in case more than 200 should sign the list and tender the \$100 initiation fee demanded from tender the \$100 initiation fee demanded from the original members, the rules requiring that those admitted in excess of 200 must pay \$500 initiation. This difficulty was a serious one and led to long discussion, which was finally settled by a resolution that the temporary treasurer should send notice to each subscriber requesting payment, and, after 200 shall have subscribed, it shall be his duty to notify those who have not paid that unless they do so within 15 days they will lose their claim to come in among the origi-nal 200 members, as, at the end of that time, payments of \$100 will be received from sub-sequent subscribers until the total number of 200 shall have thus paid, closing the list of original members. It was then moved that in determining who the original 200 members were, the names in their order on the list, as held by the secretary, shall be taken. These names are numbered in the order in which they have been appended to the list. The secretary will be authorized to receive as secretary will be authorized to receive as many as subscribe in excess of 200, and should any of the original 200 subscribers fail to make payment of their initiation fee within the 15 days provided in the final notice, the number from whom payments of \$100 will be received shall be made up from among the first of those subscribing in excess of 200. These matters having been arranged satisfactorily, the meeting adjourned until May 3d, at the same time and place. We understand that the New York Iron

and Metal Exchange Company, Limited, have issued a circular extending the time during which those who have not applied for ment bership will be permitted to do so. Th

METALLURGICAL NOTES.

A NEW CEMENTATION FURNACE.

An improved cementation furnace, invented by Messrs. F. & J. Pages, of Paris, consists of a chamber lined with refractory material, and inclosed in masonry in such a manner as to leave round it a vacancy capa-ble of containing fuel. A grate for firing is arranged under this chamber, and suitable openings allowing the access of air necessary for combustion, and also allowing the inspection of the fire from time to time, are provided, the chamber and the outer walls of the furnace being, moreover, closed by covors. The chimney pipe as placed in the center of the furnace cover, and, in order to allow the withdrawal of the latter, the pipe is provided with a movable sleeve, which may easily be raised by a cord carrying a counterweight and passing over a pulley. Brackets or side supports are arranged on each side of the cementation chamber, at those parts where they are particularly necessary for stability.

A NEW METHOD OF VEMPERING.

A new method of tempering metals has recently been brought to the notice of the French Academy of Sciences by M. Clémandot. It consists in heating the metals to a cherry red, and then compressing them strongly and maintaining the pressure until they have completely cooled. Metals thus treated acquire a great hardness and so fine

the property of being permanently magnetized. As regards the duration of the magnetism, M. Clémandot states that the magnets of the Gower, Bell and Ader telephones, made of this new steel several months ago, have thus far preserved their force. As in ordinary tempering, M. Clémandot thinks the new process produces an amorph-ism in the metal, and he points out that it will now be possible to graduate a temper by graduating the pressure applied. In experimenting with different steel, he finds those of Allevard always the best for magnetic purposes. Elliptical bars of steel seemed to take the pressure in all their parts, and showed a uniform fracture throughout.

M. Clémandot's highly interesting discovery
will, without doubt, open an entirely new
field of study to electricians and metallurgists, and will prove inestimably useful in the arts.

PROCESSES OF TINNING.

Tin, though of no great practical use by i tself, is admirably adapted for coating other metals and protecting them against the evil effects of oxidation. The four principal methods of plating, says Iron, are by the contact of molten tin with a scaled surface. by amalgamation, by immersion, and by the galvanic battery. In the first process, which is that more generally employed, the metal, well scaled with diluted sulphuric or hydrochloric acid, is raised to the temperature of the melting point of tin. It is then sprinkled with powdered rosin and plunged in a bath of metal, the surface of which is covered with melted rosin for preventing oxidation. Great skill is required in this operation, which succeeds equally well with iron, brass and copper. In the process of amalgama-tion, which is rapidly falling into disuse, a thin layer of a soft amalgam of tin with mercury is applied to the perfectly clean and dry surface to be covered; on heating, the mercury is driven off and the tin adheres. In tinning by immersion, the parts to be tin-ned, well cleaned, are plunged into one of the following liquors, raised to boiling point:

In the latter case, an ingot of pure zinc is immersed in the bath at the same time. In tinning with the battery, the following bath is prepared: Pyrophosphate of potash...... Protochlorate of tip.....

At the positive pole is an ingot of pure Banca tin, and at the negative an ingot of sinc. The following method has been recommended by Weigler: A bath is prepared by introduc-ing chlorine into a concentrated solution of chlorate of tin until it is saturated with this as. The excess of chlorine is driven off by eating the solution, diluted with ten times its volume of filtered water. The articles to be tinned, scaled with dilute acid, polished with fine sand and rinsed, are suspended by zinc wires in the bath, connected with the battery, for 10 or 15 minutes. The disad-vantages of this process are that the bath soon becomes charged with chlorate of zinc, and the tin salt requires frequent renewal. Hern proposes the following bath, in which the metals to be coated are to be immersed: Tartaric acid, 62 grams. (2 oz. 3 dr.); water, 3 liters (2½ quarts); soda, 90 grms. (3 oz. 3 dr.); protochlorate of tin, 90 grms. (3 oz. 3 dr.)

INDUSTRIAL ITEMS.

NEW HAMPSHIRE.

A contract has been made for the erection of steel works at Franconia, within 90 days, to make steel by the petroleum hot blast.— Boston Commercial Bulletin.

A casting, weighing nearly 4500 pounds, was poured at Ellis's Foundry, in Keene, a few days ago, which is the heaviest casting ever made in Keene.

The Clinton Wire Cloth Company, of Clinton, now claim to be the largest wire weavers in the world, having enlarged their wavers in the work, having enlarged their capacity greatly during the past year, and being still engaged in adding to their plant. They are making a specialty of wire lath, for the production of which they employ one

mill steadily running day and night.

There will probably be another twist-drill manufactory established at New Bedford.

The capital stock, \$200,000, is reported as

The Mason Machine Works are now employing 940 men, the largest number they \$1552. ver employed. They are making additions to their works.

CONNECTICUT.

The Corrugated Metal Iron Company, at East Berlin, have nearly completed two large buildings, to accommodate their largely in-creasing business. They are also putting in new machinery. They have been awarded the contract for the new iron bridge across the Merrimac River, at Lowell, Mass., consisting of five spans of 155 feet each—a roadway 37 feet wide and two 7-foot walks —working capacity, 4700 pounds to the linear foot. The bridge will cost \$82,000, will take 800 tons of iron, and is to be completed in six months.

NEW YORK.

The standard portable forges and the hand blowers made by the Buffalo Forge Company, of Buffalo, have met with such a good reception by the trade ever since their introduction, that the steel pressure blower, now placed on the market by the same company, has found no difficulty in recommend-ing itself to the public. The manufacturers claim a special adaptation of the blower for the use of iron foundries and machine shops, not only in durability and workmanship, but in several points of construction, notably in the journals, journal bearings and oiling device, by which oil is prevented from working into the pulleys and belts. The shafts are made of the best steel, and the blast wheel of best composition brass and salvanized iron. The different parts are and galvanized iron. The different parts are held together by bolts, and the simple construction allows repairs, when necessary, to be made by any mechanic, thus avoiding the necessity of sending back the apparatus to the makers. The blower embodies all desirable features, and the long experience of the makers, and the long experience of the makers and the makers and the mill turned out an exceptionally large product during the six days ending the mill turned out an exceptional turned out an exception turned out an exceptional turned out an exception turn

has undoubtedly greatly assisted in producing so perfect a contrivance.

NEW JERSEY.

Oxford Furnace has gone into blast. The tank furnace of the Woodbury Glass works is said to be the largest ever built, and has a capacity of melting six tons of glass every night. PENNSYLVANIA.

What will be when completed one of the finest establishments in this country, is the New Powelton Furnace, at Saxton, Bedford County. It is owned by Robert Hare Powel, of Philadelphia, well known for his various enterprises in coal and iron. The stack is 70 feet high, with bosh lined at present for

18 feet, that can be made 19½ feet. There are three Whitwell stoves, each 70 feet high and 18 feet diameter; 1000 horse-power engine made by the Reading Iron Works. A stack 192 feet high carries off the gases from the stoves; 24 boilers, each 32 feet in length make all the steam that will be needed. About five miles of railroad has been laid, to facilitate the handling of ore, coke and lime-stone that is found within an easy radius of two to three miles. Ores to be used are the local res that abound, mixed with hematite to be developed, and some foreign. Coke is from Broad Top coal, made in 105 improved Bel-gian ovens. It is considered possible that good foundry pig can be turned out for \$12 per ton or less. There are foundations laid for another furnace to be erected in the near future. An expenditure of \$340,000 has already been made, and it is expected that an additional \$50,000 will complete the enterprise. Everything that science can suggest, or money obtain, has been done to make this a practical business success. It is hoped to make the first run by the 4th of July.-Coal

The air shaft of the Connellsville Coke and Iron Company will be completed within the next 30 days; 54 diggers are now employed, and 50 of the 200 ovens are running 72-hour coke. When the air shaft is completed the force of diggers will be increased to 70, and the entire plant will be run to its fullest

capacity.

It is reported that C. R. Scull, of Phonixville, has purchased 56 acres of land from Robert Christman, at Phoenixville. A large proportion of this land is a meadow adjoining the Schuykill River, upon which it is said Mr. Scull intends building an iron works of some kind, whether a stove foundry or an iron-manufacturing establishment is

The new rolling mill of Messrs. Bailey &

Shoemaker, at Pine Iron Works, Berks County, is about ready to start up.

The Lebanon Pipe Mill, situated at the eastern end of that borough, has been idle for many years, but will probably be started up soon. Mr. Robert H. Coleman has just purchased the controlling interest in the stock, and it is said he means to have the

stock, and it is said he means to have the mill in operation as soon as it is practicable. Spring City citizens have decided to organize the Spring City Iron Foundry, with a capital stock of \$20,000, at \$50 a share, to take the place of the Keeley Stove Works, which are to go to Columbia. A committee to solicit subscriptions is meeting with success and in a few days all the stock will be cess, and in a few days all the stock will be taken.

We hear that, owing to the completion of all contracts and the absence of new orders for iron rails, the puddling department of the Allentown Rolling Mill Company will suspend operations some time this week, and as a consequence the employees will have to stand idle or seek work elsewhere. The rail mill of the company has been standing idle for a month, while in the Glen Mill, also owned by the said company, work was suspended two weeks ago. After this week, of all the various departments of the corporation, only the Little, or Lehigh Mill, which

runs on merchant iron, will be in operation.

The stack of the new furnace Ella is the tallest in the Shenango Valley, with perhaps one exception, that of the Rosena, at New Castle.

An official report states that there was An official report states that there was constructed at the car shops of the Reading Railroad Company, in Reading, last year, 2 eight-wheel passenger cars, 796 coal cars, 297 gondola cars, 180 horse cars, 12 refrigerator cars, 50 stock cars, 30 trucks for oil tanks, 1 cabin car, 9 four-wheeled cabin cars—1350 in all. More cars were needed and press would have been built but the cars—1350 in all. More cars were needed and more would have been built but the material necessary could only be procured with the greatest difficulty. Twenty-five of the Centennial passenger cars have been fitted up as first-class cars, at a cost of \$1552. All the merchandise cars have been loaded to an overweight, and the capacity of the coal cars is only limited by the ity of the coal cars is only limited by the quantity of coal that can be placed on them. Increased shop facilities are absolutely need ed for construction and repairs of rolling stock, especially for the locomotive depart-ment at Reading.

The Duncannon Rolling Mill, which was recently destroyed by fire, has been rebuilt

and is again in operation.
Shawnee Rolling Mill, near Columbia, has

gone into operation.
PITTSBURGH AND VICINITY.
Lucy Furnace No. 1 has gone out of blast

James B. Young & Co., manufacturers of rolls, have orders ahead to keep them busy for three months. They have just finished a new office and an addition to their foundry, by 40 feet. Both the blast furnaces of Shoenberger &

Co. are in blast.

Oliver Bros. & Phillips are extensively im-proving their Woods Run mill. All the boilers are being repaired, a large new fly-wheel is being put in for the muck rolls and bar mill, the muck rolls have been torn out and a new foundation is being put under them, and a general repairing all around is going on. It is thought work will be resumed in about two weeks.

Messrs. Rees & Co. have received orders

for the engines for two of the Western-river type of steamboat, to be built in Russia.

the Buffalo Forge Company in this direction addition to their present works. Negotia- first-class iron.

tions are also pending for the purchase of Wallace property, corner Tenth and ham streets. The work of demolishing Bingham streets. the present building will be commenced in a

A new spike-cutting machine, invented by the late Andrew Kloman and perfected by his successors, has been put in operation at the Superior Mill, Allegheny. It is a great success, and turns out a fine grade of spikes at the rate of 60 a minute.

Miller & Co. are putting up their forge building at Mills Station, and after completion about 150 men will be given employ-

Furnace D of the Edgar Thomson Steel Works has been completed and blown in.

оню. The Queen City Forging Company, of Cincinnati, have, within the past six months, supplied their works with a number of improved tools, among which are several milling machines made by the Pratt & Whitney Co.; two 13-ton hammers are now in operation, and preparations are being made for the erection of four more of the same size, and for a Bradley hammer of large dimensions. The specialties of these works are fifth wheels, carriage ring bolts and fifth-wheel heads. Considerable activity is at present experienced at the works, and extensions of the same will probably soon be made.

The Jefferson Iron Works, Steubenville, have contracted with the Centre Foundry and Machine Company, of Wheeling, for four additional nail machines, which will increase their plant to 102 machines.

The Sarah Furnace, Ironton, was blown out this week. It is to have a new lining and be thoroughly overhauled.

Messrs. Stochr, Keech & Co., of Pittsburgh, will commence next week the erection of a table glassware manufactory at Massillon. The inducements offered by its citizens are 1½ acres of land and \$6000. The works will be situated near the rolling

The work of erecting the McDonald shield at the puddling and heating furnaces of Brown, Bonnell & Co., Youngstown, is going forward and will soon be supplied them. They will add much to the comfort of the employees by preventing the heat from the furnaces striking them. Several other mills there have in contemplation the securing of the shields for their furnaces.

The Brilliant Glass Co., at Brilliant, Jefferson County, whose works were recently destroyed by fire, have completed their new factory, and began making glass on April 11. The glass, which had been in the pots for 10 weeks, came out as clear and brilliant as possible, which is something very remarkable. In the construction of their new buildings they have made many improvements, which give them several advantages they did not possess before, and which will enable them to turn out ware much more quickly

than formerly.

The Diamond Glass Co., Urichsville, has been incorporated with a capital of \$40,000.

The work of converting the old Swartz factory, at Martin's Ferry, into a suitable factory for the New Union Glass Co. is pro-

eeding.
The Lake Shore Rolling Mill was closed on Wednesday by the Cleveland Rolling Mill Co., owing to a demand for higher wages by the men, some 50 in number.

There is a prospect of Norwalk having glass works and a rolling mill.

The project of erecting a large stonecoal furnace and a 100-machine nail mill at Iron-

on has fallen through. Benwood Furnace made last week 420 cons of good iron. The furnace is 51 x 12 1/2

feet.
We hear that 10 new puddling furnaces have been added to the mill of the Ætna Iron

and Nail Co.

Should a pooling arrangement, as is reported, have been made between the Columbus, Hocking Valley and Toledo and the Ohio Central railroads, by which the cutting of rates on coal will cease, the control of the Hocking Valley is secured to the Standard Coal and Iron Company. This would insure the ratification of the bargain for the transferred the Airpon Iron Co. is furnace and coal and Nail Co. fer of the Akron Iron Co.'s furnace and coal and iron lands at Buchtel to the Standard Coal and Iron Co., and in that case, Miller & Buchtels new malleable iron works at the crossing of Main street by the N. Y., P. & O. and C., A. & C. railroads, will be a sure

and big thing .- Akron Beacon WEST VIRGINIA.

The Belmont Furnace is banked up, and repairs are being made on the machinery.

The mill of the Kloman Iron and Steel Co., inm Chloride.—Mr. at Moundsville, will probably start up again this week, having received a supply of metal.

ILLINOIS. Furness Bros, are building to more nail-

plate feeders for the Riverside Iron Works of Wheeling, W. Va.
On the night of the 9th inst. a portion of the main building of William Deering's Marsh Harvester Works, at Lake View, was destroyed by fire. This building was 470 feet long, 60 feet wide and three stories high, although the section of the building burned was exactly in the middle, and was 130 x 60 feet. The first floor, which contained 130 x 60 feet. The first floor, which contained machinery, the second, where was kept a large stock of patent binders, and the third, which was used as a paint shop, were totally destroyed, involving a loss of about \$35,000 on stock and \$12,000 on building, which is fully covered by insurance. A full force of men have been constantly at work rebuilding, and it is expected that the entire works will be in running order within a few days.—Chicago Industrial World.

A cutlery establishment now being started

A cutlery establishment now being started at Morris will employ 30 men.
The Chicago Scale Works are adding more machinery to their works, and will soon increase their manufacturing facilities by the erection of new works.

ALABAMA.

J. Painter & Sons are putting up 16 additional puddling furnaces at their mill, which will increase the present number to 68 furnaces.

The Birmingham Rolling Mill Company are doing a large business, and are running exclusively on pig iron manufactured in Alabama. The mill turned out an exception of the present of the present of the present number to 68 furnaces.

Sloss Furnace No. 1 has blown in, and is oing very nicely. The erection of No. 2 doing very nicely.
has been commenced.

MICHIGAN.

The Carp River Iron Company have determined to relight the fires of the Pacific Furnace, and will proceed forthwith to put her in order to blow in on coke fuel.

MISSOURI.

The works of the Groom Shovel Company of St. Louis, badly injured by fire on April 12th, started up every wheel, with full force of men last week. Only 5½ days' time were lost. The machinery and stock were fully injured.

The Central Union Brass Works, of St. Louis, are making a number of important additions to their works.

The Service of the St. Gothard Tunnel.

A recent issue of Engineering contains the following account of the service of the St Gothard Tunnel:

The special staff detailed to superintend the working of the St. Gothard Tunnel consists of an inspector (Bahnmeister) residing in Göschenen, and an assistant inspector re-siding at Airolo, 2 pointsmen, one at each station, 4 entrance watchmen, 8 tunnel watchmen, 4 skilled and 12 ordinary workmen. Every morning at 1.10, a tunnel watchman leaves Airolo and another starts from Cöschenen. Each is provided with a leather bag of exploding signals, a hammer a bolt wrench, a lantern for hand signals, and a book in which his station-master has noted the hour when he set out. The two men meet in the middle of the tunnel, remain there for an hour or two, note in their books the hour of setting out to return, and ex-change them. On reaching the station the book is handed over to the station-master, who marks in it the hour of arrival, and sends it back to the other station by the next train. Eight hours are allowed for the whole expedition. Other pairs of tunnel watchmen set off at 6.50 p. m., 12.10 noon, and 8.25 p. m., so that the whole tunnel is constantly patrolled. Each watchman writes a short patroned. Each watchman writes a snorr report in his book on every round, and anything remarkable is to be at once reported to one of the inspectors. The entrance watchmen are on duty for 12 hours; their business is to prevent any one from entering the tunnel except on proper business, and—in combination with the pointsmen—to survey the rails from the tunnel mouths to th station of Airolo on the one side, and the bridge over the Reuss on the other. At every kilometer inside the tunnel there is placed a numbered lantern. It has not been thought necessary to adopt any special means of ven-tilation. It is in contemplation to light the engines and carriages by means of electricity. The speed of the trains is controlled by hand brakes, pending the decision between the various systems of continuous brakes. Trains are not allowed to pass through the tunnel in less than 40 minutes, although the journey can be safely performed in 25 minut

The Austrian Lead Mining Indus-try.—We are informed that the "Berg-und Huettenmaennische verein fuer Stei-ermark und Kaernten" has recently pre-sented a petition to the Austrian Government demanding an appropriate duty on imported lead, for the protection of the Austrian lead mining industries. It is claimed that during the past ten years the annual output of lead has increased from 34,000 cwt. to 60,000 cwt., this quantity fully satisfying the existing demands of the country. Notwithstanding this fact, steady and constantly increasing importations have been made, resulting in a material reduction of the prices of the home supply, besides overburdening the market. Considerable quantities of lead are now on hand, a great quantities of lead are now on hand, a great proportion being in the possession of the Bleiberg Union Company. This excess of supply over demand is, moreover, in a great measure due to the fact our own country is now prepared to furnish large quantities of the metal, amply sufficient for all purposes, thus cutting off one of the most profitable PERFECTION WINDOW sources of imports of Austrian producers.
The latter, therefore, deem it advisable to put a high duty on imported lead, by which measure, it is generally thought, the prosperity which characterized this branch of industry during former years will be speed-ily brought back.

Peculiar Crystallization of Potass-E. Clas had occasion to make use of extract of wormwood or absinthe, and was surprised to find in the liquid many perfectly transparent and almost colorless crystals, very regular in form. The largest were about 1/2 inch in diameter, and weighed 130 mg. (about two grains). By studying their crystallographic form, it was found that they belonged to the isometric system; one crystal was a cube, with the angles slightly replaced with octahedral planes, the others being combinations of the octahedron and cube, with either a predominant octahedron or with no predominance of either of the forms. Several of the last-mentioned crystals show, however, very nicely and distinctly, besides these forms, the icositetra-hedron 2-2 (202). By chemical analysis it was found that the crystals were potassium chloride. This salt is commonly found in cubes, and the uncommon forms described are, perhaps, due to the presence of or-ganic substances in the wormwood extract.

Malleable Nickel.—In a recent article on malleable nickel we mentioned several Germans as deserving credit for their commendable efforts in improving this article. This has provoked a letter from Messrs. Henry Wiggin & Co., of Birmingham, England, in which they call attention to their specimens of this metal, as well as of cobalt exhibited at the electrical exhibition in Sydenham. Messrs. Wiggin & Co. obtained a patent for their process of manufacturing malleable nickel and cobalt some two years since.

According to the annual statement of the St. Louis Markets Exchange for 1881, the total volume of business represented in tons

was as follows: Received by rail, 6,750,575; was as follows: Received by rail, 0,750,575; by river, 852,410; total tons, 7,602,985. Shipped by rail, 3,462,912; by river, 884,025; total tons, 4,346,837. The direct shipments from St. Louis to foreign countries, in tons, were as follows: By rail eastward, 91,727; by river to New Orleans, 389,587; total tons, 481,314. The shipments by river include, in addition to merchandise on through bills of lading, 12,861,124 bushels grain shipped by way of New Orleans. The shipments of bulk grain, by river from St. Louis to New Orleans, for export, amount to 12,023,042. Orleans, for export, amount to 12,993,947 bushels. Thus we have with tolerable ex ness the size of the "diversion" during the period named of the improved large system. It is sufficient to load a goodly number of

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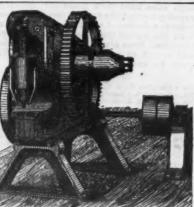
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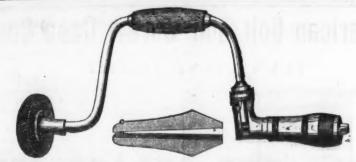
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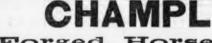
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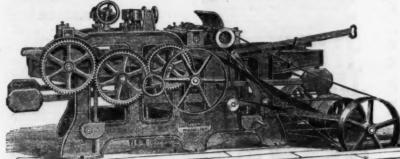
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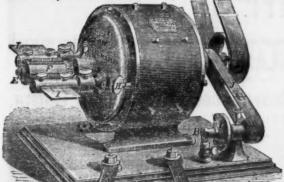
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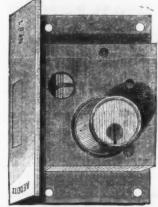
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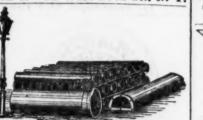
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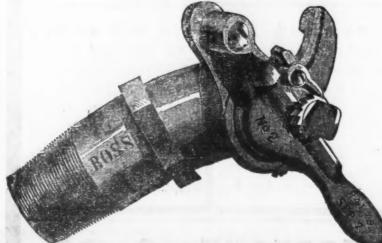


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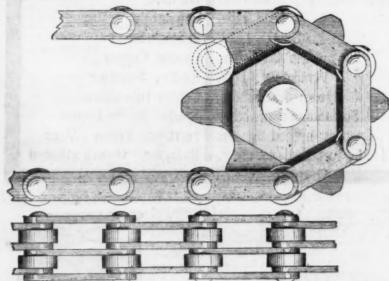
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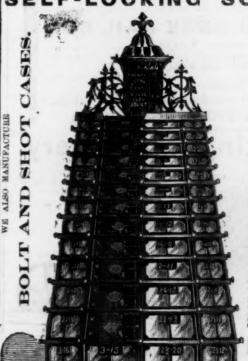
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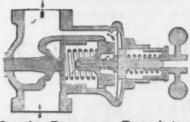
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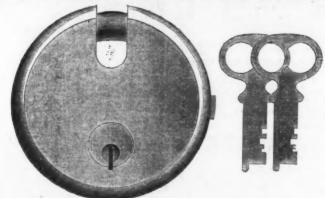
Air Compressor	19
Grant Fan Mill and Crade Co. Air Compressors Clayton Steam Pump Works. Brooklyn. N. Y. Morris County Machine & Iron Co, Dover, N. J. McLaren John, Hobokon, N. J. The Norwalk Iron Works Co. S. Norwalk, Conn.	42 19 41 40
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Anti-Friction Motais. Philadelphia Smelting Co., Ld., Philadelphia, Pa., Reeves Faul S., Philadelphia.	29
U. S. Smelting Works, Philadelphia, Pa. A avia, Manufacturers of. Fisher & Norris, Trenton, N. J.	10
Alford, Ward, Davenport & Co., 77 Chambers, N. Y. Conway T. G., 88 Chambers, N. Y. Eaton E. E., Chicago, Ill.	10
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Axles. Springs. Western Con. Cook R. & Sons. Winsted. Con. Cook R. & Sons. Winsted. Con.	13
Stevens J. & Co., Chroper Fairs, Annas, Annas, Agies, Springss, &c., Hanufacturers oy. Cook R. & Sons, Winsted, Conn. Lambertville, N. J. Wurster F. W., Brooklyn N. Y. Bag Holders, Sprengle L. Jeff., Ashland, O.	42
Shipherd John J., Cleveland, O.,	6
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Garden Tools. Dunlap C. W. & Co 43 Chambers, N. Y. Gran te fron Ware. St. Louis Stamping Co., St. Louis, Mo	IT & Smalttne Works Dhiladalahta Da	Hefrigerators. Jewett John C. & Sons, Buffalo, N. Y
Creswell David S., Ph'ladelphia, Pa	Lomon Nquoezera. Dean, Wm. B., 43 Murray, N. Y. Ondardonk R. 405 Grand N. V.	Musselman, Samuel & Son
Griudstones. Atlantic Stone Co., Boston, Mass. Lombari & Co., Boston, Mass. McLermott & Berea Stone Co., Cloveland, O	O. 5. Shielding Works, Frailancing, Fa. 10 Lemion Magneszers, 10 Onderdonk B., 5c Grand, N. V. 26 Frentis H. & Co., 42 Dey, N. V. 7 Ripley Mfg. Co., Unionville, Ct. 12 Leveis.	Rivets. Falis Rivet Co., Cuyahoga Falls, Ohio
McDermott & Berea Stone Co., Cleveland, O	Disston Henry & Sons., Philadelphia	Felis Rivet Co., Cuyahoga Falls, Ohio. 19 Gilmor Wm., of Wm., Baltimore, Md. 42 Grundy & Dissoway, 10s Greenwich, N. Y. 122 Hartison C. F., Cuyahoga Falls, O. 18 Old Colony Rivet Co., Kingston, Mass. 9 Townsend W. P. & Co. Pittsburgh, Pa. 39
Laffin & Hand Powder Co. 29 Murray, N. Y 29 Hundless Spokes, &c	tvn. E. D	Reck Breakers. Blake Crusher Co., New Haven, Conn
Handles, Spokes, &c. Hundley & Hanks, 79 Reade, N. Y. Hangers, fairn Deor. Kidder Silds Door Hanger Co., Romeo, Mich Medina Mg. Co., Medina N. Y.	Eagle Lock Co., Terryville, Conn. 28 Hillebrand & Wolt, 110 S. 8tn, Philadelphia 17 Romer & Co., Newark, N. 1	Fairel Foundry and Machine Co. Ansonia. Conn. Gat a & Scoville Iron Works, Cheago, III. 19 Tasker S. P. M., Philadelphia, Pa. 3
Kidder Silde Door Hanger Co., Romeo, Mich. Medina Mfg. Co., Medina, N. Y. Moore S. H. & E. Y., Chicago, III. Terry Mfg. Co., Dudge, N. Y. Hardware Commission Merchants. Brower & Leeds, St Murray, N. Y. field Alfred & Co., on Chambers, N. Y. Graham & Haines, 17; Chambers, N. Y. Haydock, Robt. R. & Co., 75 Murray, N. Y. Siedel J. Habana, Cuba. Sise, H. F., 100 Chambers, N. Y. Hardware Bealers.	Bohannan Wilson, Broadway and Kossuth, Brook- ivn, E. D. Carty, of Chambers, N. Y. 25 Durrie & McCarty, of Chambers, N. Y. 25 D. K. Miller Lock Co., Philadelphia, Pa. 25 Bagle Lock Co., Terryville, Conn. 28 Hilbersand & Wolt, 100 S 8tn, Philadelphia. 17 Romer & Co., Newark, N. J. Philadelphia. 17 Romer & Co., Newark, N. J. 18 Trenton Lock and Lardware Co. Technon. 12 Trenton Lock and Lardware Co. Technon. 18 Vale Lock Mgs. Co., sc Chambers, N. Y. 3 Whippie Mgs. Co., Cleveland, O. 28 Machleers.	Roofing. Garry Iron Roofing Co., Cleveland, O
Brower & Leeds. & Murray, N. Y	Yale Lock Mfg. Co., 53 Chambers, N. Y	Roof Brackets. Wilder Mfg. Co., Gardner, Mass
Haydock, Robt. R. & Co 75 Murray, N. Y	Whippie Mg. Co., Cleveland, O	Livesey Mfg. Co., 33 S ath st., N. V
Hardware Dealers, Lloyd, Supplee & Watton, 62c Market, Phila	BOX Alfred & Co. 412 Green, Phila	Rules, Manufacturers of Stanley Rule and Level Co., 29 Chambers, N. Y16
Hardware Importers. Boker Hermann & Co., to: Duane, N. Y	Kelly & Ludwig, Philadeiphia. 20 L. B. Flanders Machine Works, Philadelphia Pa. 25 Monawk & Hudson Mfg. Co., Waterford, N. Y. 10	Sad Irone, Enterprise Mfg. Co., Philadelphia
	Poorloss Punch and Sheer Co., Philadelphia, Pa. 19	
Hardware manufacturers. Butler & Goldey Mg. Co. 97 Chambers, N. Y	Pittsburgh Mrg. Co., Pittsburgh, Pa. 366.41 Purdy Machine Co., Cleveland, O. 41	Saws, Makers O., Trenton, N. J
Jenvings C. E. & Co., of Chambers, N. Y. 31 Ltoyd, Supplee & Walton, 25 Market St., Phila., Pa. 17 Miller's rails Co., 74 Chambers, N. Y.	Now York. Now York. Now York. Now York. Now York. S8841 Pittsburgh Mrs. Co., Pittsburgh, Pa	Dission Heury & Sons, Phila. Harvey W. Peace Co., L4., Broeklyn, E. D., N. Y. 16 Wieceler, Sadden & Clemsen Mis. Co., Midale town, N. Y
Lioyd, Supplee & Watton, 028 Market St., Phila, P.e. 17 Miller's Falls Co., 72 Chambers, N. Y. 25 Russell & Erwin afg. Co., 43 Chambers, N. Y. Skanley Works, New Britain, Conn. 27 Tienout W. & J., 32 Chambers, N. Y. 14 Trenton Lock & Hardware Co., Treuton, N. J. 16 Union Mg. Co., 99 Chambers, N. Y. 17 Van Wagoner & Williams, & Beekman, N. Y. 42 Hardware Nuccla Hiller.	Wetherill Robert & Co., Chester, Pa	
Tienout W. & J., 3. Chambers, N. Y. 12 Trenton Lock & Hardware Co., Treuton, N. J. 15 Union Mrg. Co., 52 Chambers, N. Y. 15	Machinery (Barnes's Foot Fower.) Little Chas. E., so Fulton, N. Y	Sawe, Bracact. Millers Fails Co., 74 Chambers, N. Y
Van Wagoner & Williams, & Beekman, N. Y	Maconiae Screwa, Masers of: Fellows John, Williamsburg N. Y. Machiniatz' Teols and Supplies Blaisdell P. & Co., Worcester, Mass. Box Alfred & Co., 312 Green, Philadelphia, Pa., 41 Box Alfred & Co., 112 Green, Philadelphia, Pa., 41 Box Co., 112 Green, Philadelphia, Pa., 42 Geo., 112 Green, Philadelphia, Pa., 45 Geo., 112 Green, Philadelphia, Pa., 45 Geo., 112 Green, Pa., 42 Green, Philadelphia, Pa., 45 Geo., 112 Green, Pa., 42 Green, 112 Chambers, N.Y. Harrington, E. & Ageney, 124 Chambers, N.Y. Harrington, E. & S.	Baw Sets, Boynion E M., & Beckman, N. Y. Farr Asa, & College Place, N. Y. 8
Kyser & Rex, Philadelphia, Pa	Bullard E. P., 14 Dey, N. Y. Fanders L. B., 1025 Hamilton, Philadelphia, Pa., 41 Fanders L. B., 1025 Hamilton, Philadelphia, Pa., 25	Buffalo Scale Co., Buffalo, N. Y
morte, 5, H. & 2, I., Unicason Resd & Co., Higganum, Conn. Shepard Sidney & Co., Buffalo, N. Y. Shenere & Underbill, qcChambers, N. Y. Tower John J., qcChambers, N. Y. Wollensak J. F., Chicago, Ill	Harrington E. & Son, 15th st. and Pennsylvania ave., Philadelphia Pa.	Forsyth Scale Co., Youngstown, O
Wollensak J. F., Chicago, Ill	Geo. Place machinery Agency, 121 Chambers, N.Y. Harrington E. & Son, 15th st. and Pennsylvania ave., Philadelphia, Pa	Weeks & Ray, Buffalo, N. Y
Harness Sangs. Covert Mfg. Co. West Troy, N. Y	Wickersham & Co., Phila felphia, Pa. 41 Wright John H., Bridgeport, Conn 37	Champion Scraper Co., Troy. N. Y. Kilbourne & Jacobs Mrg. Co., Columbus. O
Lowe & Watson. Bridgeport. Conn	N. Y. Handle and Mallet Works, 456 E. Houston	Screws. Hakers of. Billerbeck J., 17th and Venango Sts Philadelphia 1s Bruca Geo. W., 1 Platt, N. Y
Huges. M nu James & Sons B. ffalo, N. Y	Lock Box 52, New Orleans, La	Seren Cuses.
Bruce George W., I Platt, N Y	Defroit Connes and Desar Delling tett - Total	Screw Cutting Machinery.
Heg Ringers. Chambers. Bering & Quinlan. Decatur, ili		Screw Drivers, (Improved: Makers of ligston feury & Sons Petts
Holsting Engines, Makers of. Crane Bros., Mfg. Co., Chicaco, til. 4' Frisbie D. & Co., Philadelphia, Pa. The Norwalk Iron Works Co., S. Norwalk, Conn., 10	Merchant & Co., Philadelphia	Evine A. F., Pike Station, N. H

2 2	Shafting. Makers of. Cresson Geo. V., Philadelphia, Pa
310	Rogers J. F. & Co., 107 Liberty, N. T
4	Fle'd Alfred & Co., 93 Chambers, N. 7 17
G T	Cleveland Hardware Co., Cleveland, O
I	Sheet Zine.
0	Ship Coundlery. Creed Geo. H., 102 Reade, N. Y
2	Himos Zinc Co., Feru, III
9	Shutters, Steel and Wood. Clark, Bunnett & Co., 162 W. 27th, N. Y
2 20 10	Smelting Works. Chicago Smelting and Refin'ng Wks., Chicago fl. 32 Philadelphia Smelting Co., Limited, Philadelphis 22
20.00	Reeves Paul S., 760 South Broad, Phila
2	Vermont Snath Co., Springfield, Vt 25
200	U. S. Smelting Works, Philadelphia, Pa. 16 Section. Bergen Port Zinc Co., 13 Burling Slip, N. Y. 2 Manning & Squier, 113 Liberty, N. Y. 2 Spliggeleigen.
4 4	Manning & Squier, 11, Liberty, N. 1
5	Herasheim L., 105 John, N. Y
3	Holmes, Booth & Haydens, 10 Chambers, N. Y., 2811
6	Springs, Cary & Moen, & W. 20th. N. Y
9	Johnstown, 28 Harvey, Frankford, Fhils. 12 Stampe, Stencil, Michael A.M., Albany, N. Y. Staples (Wrought Iron).
-	TO MCCHAIR LITTING CO
5	Bicam Hammers, &c., Makers ot, Dievelt & Eisenhardt, Philadelphia, Pa
2	Steam Pumps, &c., Manufacturers of. Urane Bros. Mt., Co., Chicago, III. Actiowan Jone H. & Co., Chicago, III. Storrett, W., (12 N. 3d, Philadelphia 41 The Miller Co., Canton. O
2	Storer H. W. (22 N. 3d. Philadelphia 41 The Miller Co., Canton. O. 38
9	Steel Importers. Carr J. & Hiley as Gold, N. V.
5	Steel Importors Carr J. & tilley go Gold, N. Y 34 Hobson Francis & Son, qr John, N. Y 34 McCoy & Sanders 132 Duane, N. Y 36 Plerson & Co., 24 Broadway, N. Y 4 R. H. Wolff & Co., 93 John, N. Y 23
5	R. H. Wolff & Co., 93 John. N. Y
	Steel (Mushet's Special.) Hubbard Chas., 49 Cliff, N. Y. Jones B. M. & Co., 11 and 13 Oliver, Boston, Mass., 34
5	Albany & Rensselser Iron & Steel Co., Troy, N. 1. 24 Atha. Benjamin & Co., 211 Pearl, N. Y
8	Cleveland Crucible Steel Co. Cleveland O. 34
5	Gautier Steel Department of Cambria Iron Co. Johnstown Pa.
5	Miller, Metcalf & Parkin, Pittsburgh.
,	Pennsylvania Steel Co., 108 S. 4th, Phila. 6 Philadelphia Steel Forge, Philadelphia, Pa. 6 Rowjand Wm. & Harvey, Frankford, Phila. 42
3	Sanderson Geo. & Co., w Gold, N. Y
4	Singer, Nimick & Co., Pittsburgh, Pa., Spang Steel and Iron Co., Limited, Pittsburgh, Pa. 35 Spanger, John & San, Sheffield, England
9	Cleveland Reliting Mill Co., Cleveland, G. 34 Gautler Steel Department of Cambrid Iron Co., Johnstown, P. 34 Midvale Steel Co., Nicetown, Phila, Pa. 34 Miller, Metcalf & Parkin, Pittsburgh, M. 34 Naylor & Co., 95 John, N. Y. 4 Pennsylvania Steel Co., 26 S. 4th, Phila. 4 Philadelphia Steel Forge, Philadelphia, Pa. 9 Rowland Wm. & Harvey, Frankford, Phila. 42 Sanderson Geo. & Co., 10 Gold, N. Y. 33 Shoenberger & Co., Pittsburgh, Pa. 4 Singer, Nimick & Co., Pittsburgh, Pa. 34 Singer, Nimick & Co., Pittsburgh, Pa. 35 Spencer John & Son, Sheffield, England. 10 Slantard Steel Works. Philadelphia, Pa. 6 Wardlow S. & C., Sheffield, England. 34 Steel Spiral Springes, Manylocaterra q.
5	Steel Spiral Springs, Manufacturers of. Cary & Moen, 234 W. 29th, N. Y
5	Wiley & Russell Mfg. Co. Greenfield, Mass 17
2	Stoppers, Black Lead. Tauton Crucible Co., Taunton, Mass
2	Strops, Mazor Co., Worcester, Mass
1	Stove Repairs. Metaner W. C., Chicago, Ill
3	
-	Tucker & Dorsey, Indianapoiis, Ind. 17 Tackes, American Tack Co., Fairhaven, Mass. 2 Cobb & Drew, Plymouth, Mass. 12 Field A. & Sons, Taunton, Mass. 12 Field A. & Sons, Taunton, Mass. 17 Field A. & Sons, Taunton, Mass. 17 Field A. & Sons, Taunton, Mass. 17 Tapa and Brown, South Manover, Mass. 13 Tapa and Brown, South Manover, Mass. 13 Tapa and Brown, South Manover, Mass. 13
	Phillips E. & Sons, South Manover. Mass
	Manager and the second of the section at the section and the s
2	manning, maxwell & Rooce, il Toerly, N. 1. 46 Wiley & Russell affic, Co., Green Helo, Mass. 17 Testing Machines. Olsen Thius & Co., Philadelphia, Pa. 25 Richle Bros., Philadelphia. 13 Tin Ware, Stamued and Japanne. Shepard Sidney & Co., Buffalo, N. Y. Tire Linestters.
	Tin Ware, Stamped and Jupanne .
6	Shepard Sidney & Co., Buffalo, N. Y
4 10	Shepard Sidney & Co., Buffalo, N. Y. Tire Uportiers. Little Giant Mfg. Co., Millport, N. Y. Trombly E. C., Plattsburgh, N. Y. 19
	Little Giant Mfg. Co., Millport, N. Y Trombly E. C., Flattsburgh, N. Y Tobnico t ulters. Adams F. F. & Co., Limited, Erie, Pg. 28
5 2 2 2 2 2 6	Little Giant Mfg. Co., Millport, N. Y Trombly E. C., Flattsburgh, N. Y Tobnico t ulters. Adams F. F. & Co., Limited, Erie, Pg. 28
5 1113 7668	Little Glant Mfg. Co., Millport, N. Y. 19. Trombly E. C., Flattsburgh, N. Y. 19. Trombly E. C., Flattsburgh, N. Y. 28. Adams F. F. & C.S., Limited, Erle, Pg. 28. Tool Chests American Tool Co., 116 Chambers, New York. Tools, Mechanics. McCoy & Sanders, 43 Chambers, N. Y. 19. Standard Tool Co., Athol. Mass. 19. Standard Tool Co., Athol. Mass. 19.
5 1113 766	Little Glant Mfg. Co., Willport, N. Y. Trombly E. C., Flattsburgh, N. Y. Tobuco (uiters. Adams F. F. & C.S. Limited, Eric. P2 Tool (the sis American Tool Co., 116 Chambers, New York. Tools, Mechanics. McCoy & Sanders, 4; Chambers, N. Y. Standard Tool Co., 4thol, Mass. Tools, Molders'. Carter H. V., 200 Pearl, N. Y. 22
5 1 1 7 7 6 6 8 7 0	Little Giant Mfg. Co., Willport, N. Y. Trombly E. C. Piettsburga, N. Y. Tobus co. I utters. Adams F. & Co., Limited, Erfe. P2. 28 Tool Chests American Tool Co., 116 Chambers, New York. Tools, Mechanics. McCoy & Sanders, 45 Chambers, N. Y. Standard Tool Co., Athol, Mass. 18 Tools, Moiders. Carter H. V., 290 Pearl, N. Y. Tools, Moiders. Carter H. V., 290 Pearl, N. Y. Tools, Steam and Gias Filters. Armstrong F., Bridgeport, Ct. 39 Ashcroft Mfg. Co., 111 Liberty, N. Y. 30 Ashcroft Mfg. Co., 111 Liberty, N. Y.
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5 1139 7668707 5554	Little Giant Mfg. Co., Willport, N. Y. Trombly E. C. Piettsburga, N. Y. Tobus co. I utters. Adams F. & Co., Limited, Erfe. P2. 28 Tool Chests American Tool Co., 116 Chambers, New York. Tools, Mechanics. McCoy & Sanders, 45 Chambers, N. Y. Standard Tool Co., Athol, Mass. 18 Tools, Moiders. Carter H. V., 290 Pearl, N. Y. Tools, Moiders. Carter H. V., 290 Pearl, N. Y. Tools, Steam and Gias Filters. Armstrong F., Bridgeport, Ct. 39 Ashcroft Mfg. Co., 111 Liberty, N. Y. 30 Ashcroft Mfg. Co., 111 Liberty, N. Y.
5 1139 7668707 5554	Little Giant Mfg. Co., Willport, N. Y. Tobus Co. Littlesburga, N. Y. Tools, Mechanics. McCoy & Sanders, 45 Chambers, N. Y. Standard Tool Co., 4thol. Mass. 18 Tools, Moiders' Carter H. V., 200 Pearl. N. Y. Teols. Moiders' Carter H. V., 200 Pearl. N. Y. Teols. Steam and Gias Filters. Armstrong F., Bridgeport, Ct. Asherofs Mfg. Co., 1tt Liberty, N. Y. D. Saunders' Sons, Yonkers, N. Y. Tree Liviners. Flagler, Forsyth & Bradley, New York Lee E. S. & Co., Rochester, N. Y. Trucks, Manufacturers of, Penfield Block Co., Lockport, N. Y. Try Squares, Hevels, &cc., Makers of, Disaton Henry & Sons, Phila 36
5 1139 7668707 5554	Little Giant Mfg. Co., Willport, N. Y. Tohnico L. C. Pictisburgu, N. Y. Tohnico L. Utiers. Adams F. & Co. J. Limited, Erie. P2. 28 Tool Chests American Tool Co., 116 Chambers, New York. Tools, Mechanics. McCoy & Sanders, 42 Chambers, N. Y. Standard Tool Co., 4thel, Mass. 18 Tools, Molders'. Carter H. V., 200 Pearl, N. Y. Tools. Steam and Gias Fifters. Armstrong F., Bridgeport, Ct. 39 Askerfor Sifg. Co., 111 Liberty, N. Y. D. Saumers' Sons, Yonkers, N. Y. Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Prenfeld Block Co., Lockport, N. Y. Try Squares, Hevels, &cc., Makers of, Disaton Henry & Sons, Philis. 36 Tube Expanders. Dudgeon Richard, 22 Columbia, N. Y. Tubes, Telescope.
5 1139 7668707 55544	Little Giant Mfg. Co., Willport, N. Y. Tohnico L. C. Pictisburgu, N. Y. Tohnico L. Utiers. Adams F. & Co. J. Limited, Erie. P2. 28 Tool Chests American Tool Co., 116 Chambers, New York. Tools, Mechanics. McCoy & Sanders, 42 Chambers, N. Y. Standard Tool Co., 4thel, Mass. 18 Tools, Molders'. Carter H. V., 200 Pearl, N. Y. Tools. Steam and Gias Fifters. Armstrong F., Bridgeport, Ct. 39 Askerfor Sifg. Co., 111 Liberty, N. Y. D. Saumers' Sons, Yonkers, N. Y. Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Prenfeld Block Co., Lockport, N. Y. Try Squares, Hevels, &cc., Makers of, Disaton Henry & Sons, Philis. 36 Tube Expanders. Dudgeon Richard, 22 Columbia, N. Y. Tubes, Telescope.
5 1139 7668707 55511	Little Giant Mfg. Co., Willporf. N. Y. Tobus Co. Little Surgu, N. Y. Tolos Michael Surgue, Sur
5 1139 7668707 55544	Little Giant Mfg. Co., Millport, N. Y. Tobus Co. Little Surgu, N. Y. Tobus Mechanics. McCoy & Sanders, 42 Chambers, New York. McGoy & Sanders, 45 Chambers, N. Y. Sandard Tool Co., Athol, Mass. 18 Tools. Molders' Carter H. V., 20 Pearl, N. Y. Teols. Steam and Gias Filters. Armstrong F., Bridgeport, Ct. Askerofs diff. Co., Int Liberty, N. Y. The Co. Surguers, Molders' The Co. Surguers, Market, N. Y. Tree Francers. Flagler, Forsyth & Bradley, New York. Lee E. & Co., Rochester, N. Y. Frendeld Block Co., Lockport, N. Y. Frendeld Block Co., Lockport, N. Y. Ty Squares, Hevels, &Cr., Makers of, Disston Herry & Sons, Phila. Tubes. Telescope. R. T. Deakin, Philadelphia, Pa. Tubens, Telescope. R. T. Deakin, Philadelphia, Pa. Turnics (Wood). Ripley Mfg. Co., Unlonville, Conn. 19 Twist Britis, Makers of, Morse Twist Drill & Mackers of, Mackers of, Mackers of, Mackers o
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5 1139 7668707 555144 DOG B DO 1600 1 92228 0	Little Giant Mfg. Co., Willport, N. Y. Tobus Co. Little Surgu, N. Y. Tools, Mechanics. McCoy & Sanders, 42 Chambers, N. W. York. Tools, Mechanics. McCoy & Sanders, 42 Chambers, N. Y. Standard Tool Co., 4thol, Mass. 18 Tools, Molders' Carter H. V., 20 Pearl, N. Y. Tools, Steam and Gias Filters, Armstrong F., Bridgepore, Ct. 30 Askerofs Afg. Co., 1rt Liberty, N. Y. 31 D. Saumers' Sons, Yonkers, N. Y. Trucks, Monufactures of, Penfeld Block Co., Lockport, N. Y. Trucks, Manufactures of, Penfeld Block Co., Lockport, N. Y. Ty Squares, Hevels, &cr., Makers of, Disaton Herry & Sons, Philis. 10 Tubes, Telescope. Tubes, Telescope. Tuber & Co., Co. Market, Phila. 25 Turner & Co., Co. Market, Phila. 25 Turner & Co., Co. Market, Phila. 25 Turner & Co., Co. Market, Phila. 25 Turner & Co., Co. Market, Phila. 26 Turner & Co., Co. Market, Phila. 27 Turner & Co., Co. Market, Phila. 29 Turner & Seymour Mfg. Co., N. Bedford, Mass. 30 Uphoisterers' Goods. Turner & Seymour Mfg. Co. St Reade, N. Y. Valves, Gas. Water and Steam. Curtis Regulator Co., Boston, Mass. 36 Ludiow Valve Mfg. Co., Toy, N. Y. 40 The Eddy Verse Co., Waterford, N. Y. 38 Tornishes and Jusana. Rosenberg, D. & Sons, 74E. Lith St., N. Y. 38 Tarnishes and Jusana.
5 1139 7668707 555144101015 B 02 1600 I 9228999	Little Giant Mfg. Co., Willport, N. Y. Tobus Co. Little Surgu, N. Y. Tools, Mechanics. McCoy & Sanders, 42 Chambers, N. W. York. Tools, Mechanics. McCoy & Sanders, 42 Chambers, N. Y. Standard Tool Co., 4thol, Mass. 18 Tools, Molders' Carter H. V., 20 Pearl, N. Y. Tools, Steam and Gias Filters, Armstrong F., Bridgepore, Ct. 30 Askerofs Afg. Co., 1rt Liberty, N. Y. 31 D. Saumers' Sons, Yonkers, N. Y. Trucks, Monufactures of, Penfeld Block Co., Lockport, N. Y. Trucks, Manufactures of, Penfeld Block Co., Lockport, N. Y. Ty Squares, Hevels, &cr., Makers of, Disaton Herry & Sons, Philis. 10 Tubes, Telescope. Tubes, Telescope. Tuber & Co., Co. Market, Phila. 25 Turner & Co., Co. Market, Phila. 25 Turner & Co., Co. Market, Phila. 25 Turner & Co., Co. Market, Phila. 25 Turner & Co., Co. Market, Phila. 26 Turner & Co., Co. Market, Phila. 27 Turner & Co., Co. Market, Phila. 29 Turner & Seymour Mfg. Co., N. Bedford, Mass. 30 Uphoisterers' Goods. Turner & Seymour Mfg. Co. St Reade, N. Y. Valves, Gas. Water and Steam. Curtis Regulator Co., Boston, Mass. 36 Ludiow Valve Mfg. Co., Toy, N. Y. 40 The Eddy Verse Co., Waterford, N. Y. 38 Tornishes and Jusana. Rosenberg, D. & Sons, 74E. Lith St., N. Y. 38 Tarnishes and Jusana.
5 1139 76668707 555544115 LOUIS B DO 1500 1 9228999 9 9	Little Giant Mfg. Co., Millport, N. Y. Tobus co t utilers. Adams F. & C.S. Limited, Erie, P.3
5 1139 7668707 55514415 1015 3 00 1600 1 9228800 9	Little Giant Mfg. Co., Millporf. N. Y. Tobus co t utters. Adams F. & C.S. Limited, Erie, P.3
5 1139 76668707 555544115 LOUIS B DO 1500 1 9228999 9 9	Little Giant Mfg. Co., Millport, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P3 28 Adams F. & Co. Limited, Erie, P3 28 Adams F. & Co. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. Tools, Mechanics. McCoy & Sanders, 45 Chambers, N. Y. 128 Sandard Tool Co., Athol, Mass. 18 Tandard Tool Co., Makers of, Disston Herry & Sons, Phila. 19 Tandard Tool Co., Lockport, N. Y. Tubes. Telescope. Tollow Expanders. 20 Tubing. Merchant & Co., Cor Market, Phila. 25 Turners. Telescope. Turners. Tool Co., Tool Co., N. Bedford, Mass. 19 Turnins (Woodh. Hipley Mfg. Co., Unlonville, Conn. 12 Turnins (Woodh. Turnins Tool Co., Tool Mass. 16 Turners Acymour Mfg. Co., Reade, N. Y. Tandard Mfg. Co., Co., Boston, Mass. 16 Turners Acymour Mfg. Co., Tool Duane, N. Y. Tandard Mfg. Co., Co., Boston, Mass. 16 Turners and Japana. 18 Turner
5 1139 76668707 555544115 LOUIS B DO 1500 1 9228999 9 9	Little Giant Mfg. Co., Millport, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P3 28 Adams F. & Co. Limited, Erie, P3 28 Adams F. & Co. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. Tools, Mechanics. McCoy & Sanders, 45 Chambers, N. Y. 128 Sandard Tool Co., Athol, Mass. 18 Tandard Tool Co., Makers of, Disston Herry & Sons, Phila. 19 Tandard Tool Co., Lockport, N. Y. Tubes. Telescope. Tollow Expanders. 20 Tubing. Merchant & Co., Cor Market, Phila. 25 Turners. Telescope. Turners. Tool Co., Tool Co., N. Bedford, Mass. 19 Turnins (Woodh. Hipley Mfg. Co., Unlonville, Conn. 12 Turnins (Woodh. Turnins Tool Co., Tool Mass. 16 Turners Acymour Mfg. Co., Reade, N. Y. Tandard Mfg. Co., Co., Boston, Mass. 16 Turners Acymour Mfg. Co., Tool Duane, N. Y. Tandard Mfg. Co., Co., Boston, Mass. 16 Turners and Japana. 18 Turner
5 1139 76668707 555544115 LOUIS B DO 1500 1 9228999 9 9	Little Giant Mfg. Co., Millport, N. Y. Tobus co. t. utlets. Adams F. & C.S. Limited, Erie, P.3
5 1139 7668707 5554415 1055 3 00 160 1 9228999 9 93 78	Little Giant Mfg. Co., Millport, N. Y. Trombiy E. C., Piettsburgu, N. Y. Tobu. co. t. utters. Adams F. & Co. J. Limited, Erie, P2
5 1139 76668707 555544115 LOUIS B DO 1500 1 9228999 9 9	Little Giant Mfg. Co., Millport, N. Y. Trombiy E. C., Piettsburgu, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P2 28 Adams F. & Co. J. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. Tools, Mechanics. McCoy & Sanders, 42 Chambers, N. Y. Standard Tool Co., 4thol, Mass. 18 Tools, Melders' Carter H. V., 250 Pearl, N. Y. Tools, Steam and Gias Fitters, Armstrong F., Bridgeport, Ct. 39 Askertor Mfg. Co., 11r Liberty, N. Y. 39 Askertor Mfg. Co., 11r Liberty, N. Y. Tree fraurants ons, Yonkers, N. Y. Tree fraurants ons, Yonkers of, Disaton Henry & Sons, Phila. 10 Tree fraurants on the Mass. 16 Disaton Henry & Sons, Phila. 11 Tubes, Treescope. Dudgeon Richard, 22 Columbia, N. Y. 12 Tubes, Treescope. Dudgeon Richard, 22 Columbia, N. Y. 13 Tubes, Treescope. 14 Tubes, Treescope. 15 Turning (Wood). 16 Hilley Mfg. Co., Unionville, Conn. 17 Twist Dritts, Makers of, Morse Treist Dritt
5 1139 7668707 5554411110:5 B 00 100 1 022800 9 93 78 5 5 6	Little Giant Mfg. Co., Millport, N. Y. Trombiy E. C., Piettsburgu, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P2 28 Adams F. & Co. J. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. American Tool Co., 4thol, Mass. 18 Tools, Mechanics. McCoy & Sanders, 4 Chambers, N. Y. Lee Co., Athol, Mass. 18 Tools, Michanics, Parkers, N. Y. Tools, Michanics, Parkers, N. Y. Tools, Steam and Gas Hitters. Armotography Co., Armoly Co., Tools, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, S. & Co., Makers of, Disston Herry & Sons, Philadelphia, Ps. Hilley Mrg. Co., Unionville, Conn. Twiss, Drist, Makers of, Morse Twist Drill & Mach. Co., N. Bedford, Muss. Turner & Seymour Mfg. Co., Co., Rochester, Rosenberg, D. & Sons, 742 E. 14th St., N. Y. Tree, Bonney Viae and Tool Co., Philadelphia, Ps. Hilley, Mrg. Co., Chanbers, N. Y. Tree, Ps. Prentiss Viae Co., 25 Dey, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Pron
5 1139 7668707 5554441 10:55 B 00 160 1 922809 9 93 78 3 5 5 666126	Little Giant Mfg. Co., Millport, N. Y. Trombiy E. C., Piettsburgu, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P2 28 Adams F. & Co. J. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. American Tool Co., 4thol, Mass. 18 Tools, Mechanics. McCoy & Sanders, 4 Chambers, N. Y. Lee Co., Athol, Mass. 18 Tools, Michanics, Parkers, N. Y. Tools, Michanics, Parkers, N. Y. Tools, Steam and Gas Hitters. Armotography Co., Armoly Co., Tools, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, S. & Co., Makers of, Disston Herry & Sons, Philadelphia, Ps. Hilley Mrg. Co., Unionville, Conn. Twiss, Drist, Makers of, Morse Twist Drill & Mach. Co., N. Bedford, Muss. Turner & Seymour Mfg. Co., Co., Rochester, Rosenberg, D. & Sons, 742 E. 14th St., N. Y. Tree, Bonney Viae and Tool Co., Philadelphia, Ps. Hilley, Mrg. Co., Chanbers, N. Y. Tree, Ps. Prentiss Viae Co., 25 Dey, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Pron
5 1139 7668707 5554411 10:55 B 02 100 1 9228999 9 93 78 3 5 5 661265	Little Giant Mfg. Co., Millport, N. Y. Trombiy E. C., Piettsburgu, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P2 28 Adams F. & Co. J. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. American Tool Co., 4thol, Mass. 18 Tools, Mechanics. McCoy & Sanders, 4 Chambers, N. Y. Lee Co., Athol, Mass. 18 Tools, Michanics, Parkers, N. Y. Tools, Michanics, Parkers, N. Y. Tools, Steam and Gas Hitters. Armotography Co., Armoly Co., Tools, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, S. & Co., Makers of, Disston Herry & Sons, Philadelphia, Ps. Hilley Mrg. Co., Unionville, Conn. Twiss, Drist, Makers of, Morse Twist Drill & Mach. Co., N. Bedford, Muss. Turner & Seymour Mfg. Co., Co., Rochester, Rosenberg, D. & Sons, 742 E. 14th St., N. Y. Tree, Bonney Viae and Tool Co., Philadelphia, Ps. Hilley, Mrg. Co., Chanbers, N. Y. Tree, Ps. Prentiss Viae Co., 25 Dey, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Pron
5 1139 7668707 5554415 1055 3 00 160 1 9228999 9 93 78	Little Giant Mfg. Co., Millport, N. Y. Trombiy E. C., Piettsburgu, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P2 28 Adams F. & Co. J. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. American Tool Co., 4thol, Mass. 18 Tools, Mechanics. McCoy & Sanders, 4 Chambers, N. Y. Lee Co., Athol, Mass. 18 Tools, Michanics, Parkers, N. Y. Tools, Michanics, Parkers, N. Y. Tools, Steam and Gas Hitters. Armotography Co., Armoly Co., Tools, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, S. & Co., Makers of, Disston Herry & Sons, Philadelphia, Ps. Hilley Mrg. Co., Unionville, Conn. Twiss, Drist, Makers of, Morse Twist Drill & Mach. Co., N. Bedford, Muss. Turner & Seymour Mfg. Co., Co., Rochester, Rosenberg, D. & Sons, 742 E. 14th St., N. Y. Tree, Bonney Viae and Tool Co., Philadelphia, Ps. Hilley, Mrg. Co., Chanbers, N. Y. Tree, Ps. Prentiss Viae Co., 25 Dey, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Pron
5 1139 7668707 55514411 1015 B 00 150 1 022809 9 93 18 3 5 5 6661265 6 5 2	Little Giant Mfg. Co., Millport, N. Y. Trombiy E. C., Piettsburgu, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P2 28 Adams F. & Co. J. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. American Tool Co., 4thol, Mass. 18 Tools, Mechanics. McCoy & Sanders, 4 Chambers, N. Y. Lee Co., Athol, Mass. 18 Tools, Michanics, Parkers, N. Y. Tools, Michanics, Parkers, N. Y. Tools, Steam and Gas Hitters. Armotography Co., Armoly Co., Tools, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, S. & Co., Makers of, Disston Herry & Sons, Philadelphia, Ps. Hilley Mrg. Co., Unionville, Conn. Twiss, Drist, Makers of, Morse Twist Drill & Mach. Co., N. Bedford, Muss. Turner & Seymour Mfg. Co., Co., Rochester, Rosenberg, D. & Sons, 742 E. 14th St., N. Y. Tree, Bonney Viae and Tool Co., Philadelphia, Ps. Hilley, Mrg. Co., Chanbers, N. Y. Tree, Ps. Prentiss Viae Co., 25 Dey, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Pron
5 1139 7668707 5554410 10:5 B 02 160 1 922809 9 93 18	Little Giant Mfg. Co., Millport, N. Y. Trombiy E. C., Piettsburgu, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P2 28 Adams F. & Co. J. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. American Tool Co., 4thol, Mass. 18 Tools, Mechanics. McCoy & Sanders, 4 Chambers, N. Y. Lee Co., Athol, Mass. 18 Tools, Michanics, Parkers, N. Y. Tools, Michanics, Parkers, N. Y. Tools, Steam and Gas Hitters. Armotography Co., Armoly Co., Tools, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, S. & Co., Makers of, Disston Herry & Sons, Philadelphia, Ps. Hilley Mrg. Co., Unionville, Conn. Twiss, Drist, Makers of, Morse Twist Drill & Mach. Co., N. Bedford, Muss. Turner & Seymour Mfg. Co., Co., Rochester, Rosenberg, D. & Sons, 742 E. 14th St., N. Y. Tree, Bonney Viae and Tool Co., Philadelphia, Ps. Hilley, Mrg. Co., Chanbers, N. Y. Tree, Ps. Prentiss Viae Co., 25 Dey, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Pron
5 1139 7668707 5554415 10:5 B 02 150 1 9228909 9 93 18 3 5 5 6661265 6 5 25 15	Little Giant Mfg. Co., Millport, N. Y. Trombiy E. C., Piettsburgu, N. Y. Tobus co t utters. Adams F. & Co. J. Limited, Erie, P2 28 Tool Chests Adams F. & Co. J. Limited, Erie, P2 28 Adams F. & Co. J. Limited, Erie, P3 28 American Tool Co., 116 Chambers, New York. American Tool Co., 4thol, Mass. 18 Tools, Mechanics. McCoy & Sanders, 4 Chambers, N. Y. Lee Co., Athol, Mass. 18 Tools, Michanics, Parkers, N. Y. Tools, Michanics, Parkers, N. Y. Tools, Steam and Gas Hitters. Armotography Co., Armoly Co., Tools, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Frauers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Brusers, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, Forsyth & Bradley, N. Y. Tree, Flagler, S. & Co., Makers of, Disston Herry & Sons, Philadelphia, Ps. Hilley Mrg. Co., Unionville, Conn. Twiss, Drist, Makers of, Morse Twist Drill & Mach. Co., N. Bedford, Muss. Turner & Seymour Mfg. Co., Co., Rochester, Rosenberg, D. & Sons, 742 E. 14th St., N. Y. Tree, Bonney Viae and Tool Co., Philadelphia, Ps. Hilley, Mrg. Co., Chanbers, N. Y. Tree, Ps. Prentiss Viae Co., 25 Dey, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Prentiss, Pront, N. Y. Tree, Ps. Pron
5 1139 7668707 5554410 1015 B 00 160 1 922809 9 93 18 3 5 5 661265 6 5 25 15 8055	Little Giant Mfg. Co., Millport, N. Y. Tobus co. t. utilers. Adams F. & Co. J. Limited, Erie, P2
5 1139 7668707 5554410 10:55 B 00 160 1 022809 9 9 9 5 5 6 6 6 126 5 6 5 7 5 15 8 25551	Little Giant Mfg. Co., Millport, N. Y. Tobus co. t. utilers. Adams F. & Co. J. Limited, Erie, P2
5 1139 7668707 5554410 10.55 B DO 150 1 922809 9 93 18	Little Giant Mfg. Co., Millport, N. Y. Tobus co. t. utilers. Adams F. & Co. J. Limited, Erie, P2
5 1139 7668707 555440 10:5 B 00 100 1 022800 9 9 93 78 3 5 5 6661265 6 5 75 15 805555	Little Giant Mig. Co., Millport, N. Y. Tobus co t utilers. Adams F. & C.S., Limited, Erie, P2 28 Tool Chesta Adams F. & C.S., Limited, Erie, P2 28 Adams F. & C.S., Limited, Erie, P3 28 Adams F. & C.S., Limited, Erie, P3 28 McGoy & Sanders, 42 Chambers, New York. McGoy & Sanders, 43 Chambers, N. Y. Tools, Mechanics. McGoy & Sanders, 45 Chambers, N. Y. 10 28 McGoy & Sanders, 45 Chambers, N. Y. 20 Carter B. V., 20 Fearl, N. Y. Tools, Sieam and Gias Flitters. Armstrong F., Bridgeport, C. T. 30 Armstrong F., Bridgeport, C. T. 31 D. Saunders' Sons, Yonkers, N. Y. 32 Carter B. V., 20 Fearl, N. Y. Tree Frusers. Flagler, Forsyth & Bradley, New York. Lee E. S. & Co., Rochester, N. Y. Treecks, Manufacturers of, Penfield Block Co., Lockport, N. Y. Try Squares, Hevele, & Cr., Makers of, Disston Herry & Sons, Phila. 36 The Expanders. Merchant & Co., cor Market, Phila. 37 Turner & Goods. Merchant & Co., cor Market, Phila. 38 Turnin - (Woodh, Hipley Mig. Co., Unionville, Conn. 39 Twiss Dritts, Makers of, Morse Twist Dritt & Mach. Co., N. Bedford, Music Dipholsterers' Goods. Turner & Seymour Mife. Co. St Reade, N. Y. Valves, Gass. Water and Steam. Curtis Regulator Co., Boston, Mass. Lucinow valve Mig. Co., Troy, S. Y. Rosebers of J. & Sons, 74e E. Lith St., N. Y. 18 Segulator Co., Boston, Mass. Boker Hermann & Co., 101 Duane, N. Y. 18 Standers, D. & Sons, 74e E. Lith St., N. Y. 18 Segulator Co., Boston, Mass. Boker Hermann & Co., 101 Duane, N. Y. 19 Segulator, Co., Boston, Mass. Boker Hermann & Co., 101 Duane, N. Y. 19 Segulator, Co., Boston, Mass. Boker Hermann & Co., 101 Duane, N. Y. 19 Segulator, Co., Sons, P. S. Y. 19 Sons, 74e E. Lith St., N. Y. 19 Sons, 74e E. Lith St., N. Y. 19 Segulator, S. Sons, 74e E. Lith St., N. Y. 19 Segulator, Co., Sons, P. S. Y. 19 Sons, 74e E. Lith St., N. Y. 20 Duane, R. Y. 21 Segulator, S. Sons, P. S. Y. 22 Pentits Vise Co., 25 Pey, N. Y. 23 Pentits Vise Co., 25 Pey, N. Y. 24 Pentits Vise Co., 25 Pey, N. Y. 25 Pentits Vise Co., 25 Pey, N. Y. 26 Pentits Vise Co., 25 Pey, N. Y. 27 Pentits Vise C
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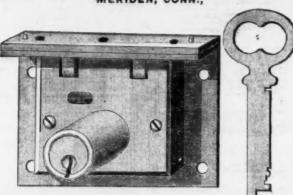
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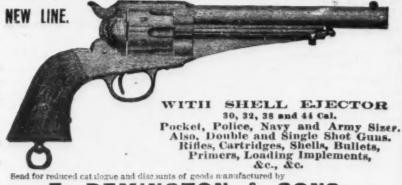


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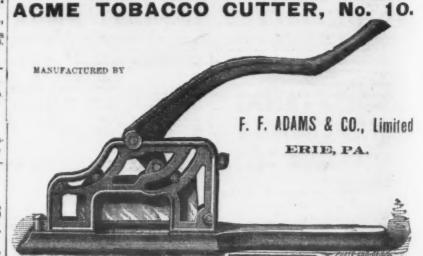
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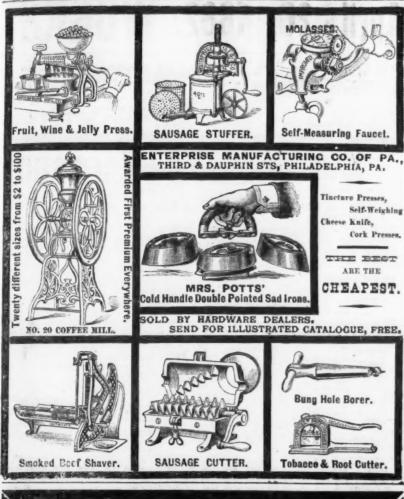
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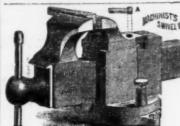
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A netls. ₽ b 10c dis 20 % Eagle Anvils, American. 10%c @ 11c Wright? 10%c @ 11c armitage's Mouse Hote. 05c @ 05c Trenton. 10%c Wilkinson's 10%c	Fast Joint, Narrow dis jook in Fast Joint, Broad dis jook in Loose Joint dis 50k in dis
A II When and Daill	Locse Joint, with Acorus dis 40% to Locse Joint, Japanned, with Acorus dis 50% to Parliament Butts. dis 50% to 61% 50% 50% to 61% 50% to 61% 50% 50% 50% 50% 50% 50% 50% 50% 50% 50
Millers Falls Co. Roll on	Mayer's Hinges dis 55% Loose Plu, no Acorn dis 50% Loose Pin, Acorns dis 45%
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or wold. No bles Mrs. Co. Speil Mrs. Co.	Loose Joint, Broad Table Butts, Back Flaps, &c. dis 40&1c Inside Blind, Regular dis 40&1c Inside Blind Light dis 40&1c
Watrous & Co. Extension Lip dis 35 % Cook's Housinss Mfg. Co. dis 40 % Patent Solid Head dis 40 % dis 40 % dis 40 %	Loose Pin, Wrt. d's 45&r Loose Pin, Light dis 40&tc Spring Hinges:
Russell Jennings' Auger, Dowel, Machine-Dowel and Hand Reil Bits. disroktokto Russell Jennings' Augers dis 16% 26.08 to 26.05	Geer's Spring and Blank Butts. dis 2- Sabin Mfg. Co, 's Double Acting dis 5- Union Spiral Spring, Japanned dis 2- Union Spiral Spring, Ornamental dis 2-
Russell Jennings' Car and Machine Bits, Boring Ma- chine and Millwright's Augers. dis 25% 10% 10% 10 Imitation Jennings' Bits	Union Spring Hinge Co.'s. dis 2¢ American Spring Hinge Co.'s dis 2¢ Gem Spring Hinges. dis 2¢
Types "Jennings" Bits. dis 40 % Andrews' Bits. dis 40 % Andrews' Bits. dis 40 % Andrews' Bits. Clark's small \$18: large \$26, dis 25 %	Union Mfg. Co
Expansive Bits, Ives. \$20 (a \$30-dis33) 5 Expansive Bits, Blake's \$20-dis 40-dis 40-di	Blind Butts, Palmer. dis 4-&1c Rlind Butts, Seymour. dis 70%2. Blind Butts, Shepard's "Double Locking." Nos.
Hollow Augers, Ives (dis 25 % Hollow Augers, French, Swift & Co dis 15&10 % Hollow Augers Douglass'dis 15&10 %	Loose Pin, Wrt
Hollow Augers, Bonney's Adjust, & doz. 448—dis 25210 % Hollow Augers, Stearns' Adjust, & doz. 448—dis 25210 % Hollow Augers, Ives' Expansive, each \$4, 50—dis 26210 %	Blind Butts, Nicholson dis 45&10 Blind Butts, Huffer dls so Blind Butts, Clark's, Nos. 1, 3, 5, 40, 45 and so d's 70&2
Wood's \$1.5 \$7.50 \$7.50 \$7.50 \$1.50	Blind Butts, Sargent's, No. 1, 3. dis objected Blind Butts, Sargent's, No. 12. dis 70 to Blind Butts, Peading's Gravity dis 65% to Clark's Improved Shutter Hinge, Nos. 1, 142.
Gimlet Bits, "Bee" dis 52855 Double Cut Gimlet Bits, Shepardson's. dis 40 8 Double Cut Gimlet Bits, Ct. Valley Mfg. Co.dis 20&10 8	Bow Pine.
Double Cut Gimlet Bits, Hartwein s. dis 40 5 Double Cut Gimlet Bits, Douglass'. dis 40 5 Double Cut Gimlet Bits, Ives'. dis 50 6 Secrets Bit Stock Delli dis 25 5	Bow Pins. Hommson, Beckley & Co.'s
**Rommedieu's Ship Augers	######################################
jewing, Prass V. rrule. \$3.0 \$ gross—dis 40 to 5 fatent Sewing, Short \$1.0 \$ doz—dis 40 to 5 fatent Sewing, Jong \$1.0 \$ doz—net Fracent Peg, Plain Top. \$1.00 \$ gross—dis 40 to 5 fatent Peg, Leather Top. \$1.00 \$ gross—dis 40 to 5 fatent Peg, Leather Top. \$1.00 \$ gross—dis 40 to 5 fatent Peg.	816.00 19.00 21.50 24.00 27.00 30.00 33.90 36.50 Can Openers. Messenger's Comet
Awle, Brad Sets, &c.	\$16.00 19.00 21.00 24.00 27.00 90.00 33.50 98.50 Can Openers. Can Openers. Can Openers. Can General Comet. Pd Cox \$3.00 dis 25 America. Pd Cox \$4.00 dis 15.40 Duplex. Pd Cox \$2.70, dis 10 Duplex. Pd Cox \$2.70, dis 10 Duplex. Pd Cox \$2.70, dis 10 Duplex. Pd Cox \$2.70, dis 20 Box \$2.20, dis 10 Box \$2.20, dis 10 Box \$2.20, dis 10 Bureks. Pd Cox \$2.20, dis 10 Bureks. Pd Cox \$2.20, dis 10 Bureks. Pd Cox \$2.00, dis 15 Box \$2.20, dis 10 Box \$2.20,
Awis, Brad Sets, &cc. Awis, Scottog, Common. By gross \$1,70-dis 26&to 5 Awis, Schouldered Pes. By gross \$2,45-dis 25&to 5 Awis, Schouldered Pes. By gross \$2,45-dis 25&to 5 Awis, Schouldered Pes. By gross \$2,70-dis 25&to 5 Awis, Schouldered Pes. By gross \$2,70-dis 25&to 5 Awis, Schould Brad By awis, Schouldered By awis, Schoul	No. 4, French
a.wis, Handled Brad. \$7.00 \(\psi\) gross—dis 25\(25\) 5 (a.wis, Handled Scratch. \$7.00 \(\psi\) gross—dis 25\(25\) 6 (a.wis, Socket Scratch. \$1.00 \(\psi\) 6 \$1.25 \(\psi\) 6 7.00 \(\psi\) constant.	Star 9 doz \$5.00, dis 25 Sprague, No. 1, \$7.00; No. 2, \$2.25; No. 3, \$2.50 dis 50\$20
urad Sets, Atken's 4 doz \$12.00 - dis 45.810 50 km d det \$12.00 - dis 70.810 50 km d det \$1.00 km d dis 70.810 50 km d det \$1.00 km d dis 70.810 50 km d det \$1.00 km d dis 70.810 50 km d dis 70.810	"Worlds Best" # gross, No. 1, \$12; No. 2, \$24; No. 2, \$35
Tad Nets, Stanley's Excelsior, No. 2, 6,66dis 308.10 % a wes.	Caps—Percussion & 1000. U. M. C., F. C. trimmed
Single Bit, 44 to 54 and under # 002 \$12 00 net Single Bit, 44 to 6 and over # 002 \$12 50 net Lingle Bit, beveled 502 # 002 advance	U. M. C. Cen. fire ground 700 dis 1035 U. M. C. Double W. Proof \$1.40 g.c. dis 230c, dis 5
Pouble Bit, 45 to 6 and over	Double Waterproof, in 1-10's. \$1.40' dis 10 Colt's Pistol, in 1.10's
Frager's. W B 6c	E. B. 1-10, ground edge
Bag Holders. Sprengle's Patent, per dos \$18dis 40 %	Cards. Horse and Curry new list. July '81, dis ro
#rad Sets, Stanley's Excelsior, No. 2, \$4.80 dis 502to 5 read Sets, Stanley's Excelsior, No. 2, \$4.80 dis 502to 5 read Sets, Stanley's Excelsior, No. 5, \$7.80 dis 502to 5 read Sets, Stanley's Excelsior, No. 5, \$7.80 dis 502to 5 read Sets, Stanley's Excelsior, No. 5, \$7.80 dis 502to 5 read Sets, Stanley's Excelsior, No. 5, \$7.80 dis 502to 5 read Sets, Stanley's Great Sets, Stanley Sets,	Wool
## Bells: Clark Brass. Clark Crop	Carpet Stretchers.
Hand, Silver Chime. dis 20210 5 Hand, Globe (Cone's Patent). dis 25210 5 Gong, Abbe's. dis 20210 5	Casters. Bed
Gong Fankee	Martin's Patent dis 25 Cattle f.eaders. dis 60&10 Humason, Beckley & Co.'s dis 60&10 Sargent's dis 60&10
Crank, Cone's	Chain. W nair roc)
Lever, Taylor's Japanned	Trace, 7-10-2. P pair 700 dia 35 Trace, 7-10-2. P pair 860 derman Halter Chain, list of Dec. 31, 1891dis 35d: 0
Pull, Prooks' dis 50x10x2 8 Pull, Western dis 25x10 8 Cull. dis 25x10 8 Cull. dis 25x10 8	Chain. P pair 700) Frace, 6/4-10-2. P pair 700) Frace, 6/4-10-2. P pair 700) Frace, 7 10-10-2. P pair 700) Frace, 8 10-10-2. P pair 700) Frace, 9 10-1
Cow Western, Sargent's Lew list. dis 20 % 10 % Cow Western, Sargent's Lew list. dis 25 % 10 % Cow Kentucky "Star dis 20 % 10 % Cow K	Jack Chain, Iron dis 60& to Jack Chain, Brass. dis 50& to Chalk.
Cow, Restucty, Sarrent's now list	Chalk. ♥ gros 6ce n. Red. ₱ gros 8ce n. Bitte. ♥ gros 8te n. White Crayous. ♥ gross ge ne
\$12.00 10 00 9.00 8.00 0.00 5.00 3.50 2.50 5.00) (by, Texas "Stat"	Chisels. Socket Framing, Crossman
Bellows, Common dis 45 5 Blacksoniths, Extra Pittel and Pattern dis 20 5 Blacksoniths, Extra Pittel and Pattern dis 20 5 Molders dis 25 5 Hand Bellow dis 25 5	Chiefle Socket Framing, Crossman Socket Framing, Arlington Edge Tool Co., dis 5,520. Socket Framing, Buck Bros. 186 list, di 2345. Socket Framing, Merrill. Socket Framing, Merrill. Socket Framing, Merrill. Socket Framing, Ouglase Socket Framing, Douglase Socket Framing, Douglase Socket Firmers, Crossman Socket Firmers, Crossman Socket Firmers, Rerill. Socket Firmers, Merrill. dis 652:0 Socket Firmers, Merrill Socket Firmers, Wertherby Tool Co. dis 652:0 Socket Firmers, Wertherby Tool Co. dis 652:0 Socket Firmers, Wertherby Tool Co. dis 652:0 Socket Corner Tanged Firmers Sutcher's dis 662:0 Tanged Firmers, Butcher's dis 662:0 Tanged Firmers
Reiting, Rubber. Y. Belting and Pucking Codis 20&50 \$	Socket Framing, Douglass'
No tenders P doz \$15 00 dis 40\$5 \$ Fatension, Barber's P doz \$15 00 dis 40\$5 \$ Fatension, Barber's P doz \$15 00 dis 40\$5 \$ Fatension, Ives P doz \$25 00 dis 40\$5 \$ Fatension P doz \$25 00 dis 40\$5 \$ Blind Adjusters Domestr's P doz \$25 00 dis 15 \$ Fatensior P doz \$16 00 dis 50\$10\$2 \$ Fatensior P doz \$16 00 dis 50\$2 \$ F	Socket Firmers, Merrill dis 65& to Socket Firmers, Witherby Tool Co. dis 65& to Socket Firmers, Douglass' dis 65& to
Blind Adjusters.—Domesti. P doz \$24 co-dis 4085 % Blind Adjusters.—Domesti. P doz \$3.00—dis 15 % P doz \$3.00—dis 5.8 for doz \$6.6 co-dis 5.8 for cold \$6.2 %	Socket Corner dis 552 to fanged Firmers dis 502 to fanged Firmers Succher's \$5,000 \$5,25 to fanged Firmers Spear & Jackson's \$5,000 \$5,25 to
Hijnd Fas eners. 11acktell's. Van San Du Serew pattern. 58-50 V gro. net	fanged Firmers, Buck Bros (Shank) 5.25 to Elamps. Iron Providence Tool Co.'s Wrt. Iron
Rijnd Vas eners. Piackiel's. Packiel's. Van Sand's, Screw pattern. So V gro. net Van Sand's, Old Pattern. Washburn's Old Pattern. Washburn's Old Pattern. Merriman's. Level of the Merriman's.	Cinaps. Iron, Providence Tool Co.'s Wrt. Iron. dis z. Iron, Adjustable, Gray's dis zo Iron, Adjustable, Gray's dis zo Iron, Adjustable, Snow's. di 4ccs. Iron, Adjustable, Hammer's. dis 15 Iron, Adjustable, Stearus' dis 20x10 Iron, Carriage Makers', Sargent's. dis 6xito Iron, Carriage Makers', Sargent's. dis 60x10 Cities. Axle.
Brind Stapics.	Iron, Adjustable, Hammer's
Bar bed, % in list Jan. 5, 1882. Blocks.—New list Jan. 5, 1882. Block Sc.—New list Jan. 5, 1882. Bar and Rlock Co. Robe and Iron Strap'ddis 35 5	Clips. Axle. Norway or Best
Blind Staples. Bar bed, \$6 in. and larger	Coal Hods. Griffiths'dis 3335 Cockeyesdis 55
Helts. Cast Iron Barrel, Shutter, &c. dis co&10 &	Cocks, Brass. Cocks, Brass. Racking, new list, July 10, 1880
Bolts. Cast Iron Barrel, Sbutter, &c dis cokno g Cast Iron Chain (Sargent's list) dis cokno g Ives' Pat. Door Rolts dis cokno g Wrought Shutter, Brass Kinob, Stanley's list. dis cokno g Wrought Shutter, Brass Kinob, Stanley's list. dis cokno g Wrought Shutter, Brass Kinob, Stanley's list. dis cokno g Wrought Shutter, Sargent's list. dis cokno g Wrought Sunk Flush, Sargent's list. dis cokno g Wrought Sunk Flush, Stanley's dis cokno g Wrought Sunk Flush, Stanley's dis cokno g Wrought Sunk Flush, Common. dis cokno g Carriage and Tire, Philadelphia, new list. dis cokno g Carriage and Tire, Philadelphia Pattern dis cokno g Cinion Carriage cold list) dis cokno g Tire, Am. Serew Co.'s, Phila, new list. Nov: , 'co, dis cokno g Tire, Am. Serew Co.'s, Phila, new list. dis cokno g Tire, Table W new list. dis cokno g Tire, B & W of W new list. dis cokno g Tire, H B & W new list. dis cokno g Tire, W New Land Serew Co.'s dis so g Tire, W W dis cokno g Tire, and Tire dis cokno g Tire, and the	Plain Bibbs, new list, July 10, 188
Wrought Shutter, all Iron, Stanley's listdis 50&105 Wrought Shutter, Brass Knob, Stanley's list.dis 50&105 Wrought Shutter, Sargent's listdis 50&105	Ale and Beer, new list, July to 1880. dis ac Coffee Mills. Coffee Mills. dfs 45 Wison's. dfs 45 Wison's. dfs 45 Wison's. dfs 45 Wison's. dfs 45 American (Enterprise Mfg. Co.). dis 25 American (Enterprise Mfg. Co.). dis 25 Trench Stee. dfs 26 Trench Stee. dfs 26 Trench Stee. dfs 26 Combined Dinner Fail and Lautern. dis 26 Combined Dinner Fail and Lautern. dfs 26 Compasses, Dividers. dfs 26 Callpers dfs 26 Callpers dfs 26 Callpers dfs 26 Callpers dfs 26 East 26 Callpers dfs 26 East 26 Compasses dfs 26 East 26 Callpers dfs 26 East
Wrought Sunk Flush, Sargeutesdis 408 ref Wrought Bu K. Flush, Stanley'sdis 408 ref Wrought B. K. Flush, Com'n, Stanley'sdis 5,824% Corridge and Tire. Commondis 50.	American (Enterprise MTg. Co.). dis 25 French Steel. dis 25 The "Swift" (Lane Bros.). dis 25 Webb's Patent dis
Carriage and Tire, Philadelphia, new list. dis 6x5 Carriage and Tire, Philadelphia Pattern. dis 7x5 Union Carriage . dis 7x5	Combined Dinner Fail and Lautern. Per dez. \$15,000
R. B. & W. Carliage fold fist. Tire, Am. Screw Co. 's, Phila, new itst, Nov:, "c. dis 755 Tire, "Bay State" dis 805.0 5 Tire, "Bay Water" dis 755.0 5	Compasses dis 55 Calipers dis 65 Dividers dis 65 Dividers dis 65
Tire, R. B. & W., new list	Bemis & Call Co.'s Dividers and Callipers. dis osc Bemis & Call Co.'s Compasses and Callipers. dis osc Bemis & Call Co.'s Wing & Inside or outside. dis osc Bemis & Call Co. 's Pouble. dis Bemis & Call Co. 's Call's Fatent Inside). die os Bemis & Call Co. 's (Call's Fatent Inside). die os
Stove - Imerican Screw Co.'s	Bemis & Cali Co.'s Double
	Coopers' Tools. Bradley's
Borta Machines. Upright. Angular. First quality, no augers. \$5.00 \$6.75dis 45.50 \$1.00	Clough's Wire. dis 2s. Corn Knives and Cutters.—Bradley's. dis 1s. Wadsworth's. dis 2344
Hoxes. dis 20 %	Crow Bars. Cast Steel Iron. Steel Points.
0.8. Backus	Curling Irons, &c. 14, 94, 54 in., \$1.80, 2.00, 2.40 Curling Tongs. \$\tilde{y}\$ doz \$2.55, dis 10 Pinching Irons. \$\tilde{y}\$ doz \$7.50, dis 20
Ives' Patent Braces dis sok to \$ Common Ball (American) dis 55 \$ Amidon's dis 50 \$	Curry Combs.
Braces	Fitch's new list. dis so Hotchkiss, Novelty new list, July, 1885. dis 24 Hotchkiss, Excir. Supr. Champiou. dis 25 Lawrence "Perfect" dis 24 km c Rubber. \$\psi\$ dos \$\frac{1}{2}\$ occ, \$\psi\$ is \$\psi\$
Shelf, plain dis 508 to 8 Shelf, fancy dis 558 to 8 Reading dis 558 to 8	Rubber.
Relate Wire theeds list of Dec. 15, 79. dis 55210 %	Cutiery. Meriden Cutlery Co. (Table)
Buil Rings. Union Nut Co	Cutlery, Meriden Cutlery Co. (Table)

E	esale Prices,	A
MMM	Dog Collara. dis 20 % Leather dis 40 % Brass dis 40 % Celluloid dis 40 %	Hic Ap Ap
NEWENNE WAR	Door Springs. Torrey's Rod, regular size, per doz., \$3 dis 40&10 % Gray's Rod dis 15 % Rec Rod dis 15 %	Soc Soc File Aug Pat Pat
THE WAR WAY	Bec Rod	Pat Bar Bar
**	No. 4("\$ hoo Fly") Screen door size. & doz £1.50 No. 5, Screen Door Size. & & doz £2.00 dis No. 5, Ne llum. & doz £75 50 % No. 7, Large. & doz £00 Sabin's LeverNo. 1, £1; 2, £1.50; \$2; 4, £3.00 dis	Clin Cha Cl Ster Che Kid
M. SH SH SH SH SH	Sabin's Boss. No. 1, \(\psi \) (02. \$4.00 \) (33/5 \) (8 sabin's Crown. \(\psi \) (4 cos \) (1. \$3/5 \) (8 sabin's Crown. \(\psi \) (4 cos \) (1. \$3/5 \) (8 sabin's Crown. \(\psi \) (1. \$3/5 \	The Terr
SPANS MAN	Rubber, complete	Jud Fite Hot And Sars
RESERVE		Cov Cov
M MKMM	Douglass	Cl La Hun Sh Cl
BENEVER S	Ercast Wilson's	Hur Sh Cl. La Yerl
BR BRBRBR	Ratchet, Weston's dis 20 Ratchet, Weston's Triple Action dis 20 8 25 25	Sh Cl La Sim
MM	Automatic Boring Tools. earh \$2.25, dis 20 ≤ Drill Chucks.	Cli La Br Br Coll Sh
MMM	Reg Beaters.	Cla La Peci Sh La Cla
MERKEY	Family (T. & S fg. Co.)	AX I
MMMM	Elevator Backets. Mill E. Buckets. light, 5% to 10 in. (Due's Improved) *** 100 \$15,00@\$40,00, dis 10 \$ Mill E. Buckets, heavy, 5 to 10 in. (Due's Improved) *** 4 dos \$2,00 \$8 10.00, dis 10 \$ Storehouse (Due's Pat.), 12 to 17, \$12.00 @ \$.00, dis 10 \$ Emery and Entery Paper. Regular numbers. *** 8 66	Wad Gate Gate Gate Gate
MAN M	Flour and F. F. B. & A. Emery Paper	Gate Gate Gate
W W W	Enameled and Tinned Ware. Rettles	Roll Roll Plat " Pr
N N	Escutcheons	Hea
NW WW N	Faucets dis 40 2	Wro H Rive
MAN MAN	Lanes (Seir-Measuring) w dos., \$95 cc. ons 25 Star s (Seir-Measuring) w dos., \$95 cc. ons 25 Star s (Seir-Measuring) w dos., \$95 cc. oc. oc. oc. oc. oc. oc. oc. oc. oc.	Book Grul Plaz Scov Scov
MMMM	J. Sommer's Cork Lined, 1st quality. dis 65 Felice Plates. \$ 100, dis 20 \$ Files. \$ 500 to £, dis 35 \$ E M Roynton'sew list, dis 25	Hick Win Win Mag
MM	Auburn. \$\$ co to £, tile 35 5 E. M. Boynton's	Bird Cott Cott Cott Belt
MHH M	H. Disston & Soins (new 1987) dis 25 % Heller Bros. Horse Rasps dis 25 % Nicholson dis 40 % New American dis 40 %	Mo Clot Clot Cell
東京にな.	Knox, 1 inch Rolls	Coat Coat Pict
et	Knox, 6 Inch Rolls	Wro Wro Wire Gran Whi
MMMMM	American, 5-11., \$3; 6-10., \$3; 40; 7-10., \$4; 5c each, dis 25; 5 Domestic Futer	Hoo Hoo
NMMMMM	Buffalo	Clin Clin Esse Puti Vulc
BBBBBB	Forks. Hay, Manure and Spading dis 50 % Plated, A 1, Rogers & Bro. dis 40&5%5 % Plated, Re. d & Barton dis 40&6%5 %	A. C. Ch'E
KMMMA	Fruit and Jelly Presses. Enterprise Mrg. Co	R. I. Lip Mule Lee
M WHAM	"Acrne"	Nati Nove Whi Dun Woo
W W W	Wire, Wheeler, Hadden & Co. dis 10 % Wire, Wheeler, Hadden & Co. dis 10 % Gimle 's. dis 50 % Nafl and 'plke dis 50 % "Eureka." Gimlets dis 50 % "Eureka." Gimlets dis 50 %	lce l lce l Kite Com
MMMM	Ginle's. dis 50	K Bras Ena
WHEN WE'S	Timed and Enameled dis 25 Family, Howe's "Eureka" dis 25 Family, Howe's "Eureka" dis 25 Family, H. F. & C. "Handy" dis 25 Family L. F. & C. "Handy" dis 25 Family L. F. & C. "Handy" dis 25 Family L. E. & C. E. Wilson Sergent's Patent Co., new list. dis 25%10 5	Ame Ame Ame
24 2471	Gun Wads. U.M. C. R. E., 11 up	Hay Tabl K Carr Base Hem
Tanana Mara	U. M. C. P. E. 48 to 4.00 U. M. C. P. E. 48 to 4.00 U. M. C. P. E. 48 to 4.00 U. M. C. P. E. 7.28 400 Hatters. Cover's Par. Rope. dis 50 \$ House and Critic This, Cover's dis 68	Door Door Furn Furn
MINIMAN	Maydole's dis 15 % Choney's dis 28 % Hartford Hammaey co. (new dist July 1, '81). dis 22 %	Pict Pict Hem Shut
MANNA	Humsen & beckiey	Melt Melt Melt Tub
e	Providence Tool Co., Leg Irons, \$25 00 & dozdis to \$1	Nail Mete Hur Peer
SAN NAMED	TOWOT'S Thumb totaken	Erac Ætn Yan De E Poli Con
BURNE SE	Handles,	Penilis La Porc Woo
et l	Surface Chest dis 55& to \$ Flush Chest dis 55& to \$ Lifting dis 50& to \$ Saw and Plane dis 50& to \$	Eure

		_
	Hickory Firmer Chisel, assorted. \$\psi\$ gross.\$\psi_4.50\$ Hickory Firmer Chisel, large, \$\pi\$ gross\$\phi_5.00\$ Apple rirmer Chisel, assorted. \$\pi\$ gross\$\phi_5.00\$ Apple Firmer Chisel, assorted. \$\pi\$ gross\$\phi_5.00\$ Apple Firmer Chisel, large, \$\pi\$ gross\$\phi_5.00\$ Apple Firmer Chisel, assorted. \$\pi\$ gross\$\phi_5.00\$ Socket Framing chisel, assorted, \$\pi\$ gross\$\phi_5.00\$ Socket Framing chisel, assorted, \$\pi\$ gross\$\phi_5.00\$ Auger, assorted. \$\pi\$ gross\$\phi_5.00\$ Auger, large, \$\pi\$ gross\$\phi_5.00\$ Patent Auger, love! \$\pi\$ gross\$\phi_5.00\$ Patent Auger, Douglass'\$\pi\$ eet \$\pi\$1.20, uct Patent Auger, Swan's\$\pi\$ set \$\pi\$1.00, not	C
	Aprile Firmer Chisel, large, # gross 6.00 dis Socket Firmer Chisel, assorted, # gross 3.00 20210	Si
	Socket Framing (hisel, assorted, & gross. 5.00 (6)	31
	Auger, large, F gross	C
	Patent Auger, Douglass'	C
	Hangers, Barn Door, New England	T
	Climax (Anti-Friction)	L
	"Champion " Medina Mfg. Co	A
	Kidder's dis 50% 5 %	Y
	The "Boss"	F.
		Bi
-	Harvess Talks. Anchor (T. & S. Mig. Co.). dis 6 g Henshaw's, list of 1½ changed to \$14.00. dis 528.0 g Jud 's, list of 1½ changed to \$14.00. dis 528.1 g Fitch's (Bristol), list of 1½ change to \$14.00. dis 528.1 g Hotch tiss'. dis 15 g dis 15 g dis 15 g dis 15 g	No No
-	Fitch's (Bristol), list or 1% enange to \$1,000 cms (\$2,100 cms) Hotch kiss'	K: M: W
	Sargent's dis 65&10 % German dis 75 %	Tr
1	Covered Springdis socio s	P
i	Hatchets. Isatab Blood	
-	Introducts	
	Shingling, Nos. 1 2 3 P dos \$7.25 \$8.00 \$8.75	1
1	Claw, Nos. 123 @ doz 7.75 8.50 9.25 Lathing, Nos. 123 @ doz 7.30 8.25 9.00 Hurd's	1
-	Claw, Nos. 12 3. 9 doz 7.75 8.50 9.25 Lathing. Nos. 12 3. 9 doz 7.30 8.25 0.00 Rurd's. 10 10 10 10 10 10 10 10 10 10 10 10 10	N
-	Siningling, Nos. 12 3.	Pe
	Claw, Nos. 1 2 3 Cog 8.25 8.75 0.25	Di
ı	Latting, Nos. 12 3. # dos 27.50 \$3.00 \$5.50 \$5.00 Claw, Nos. 012 3. # dos 27.50 \$3.00 \$5.50 \$5.00 Claw, Nos. 012 3. # dos 2.00 \$0.50 \$0.50 Claw, Nos. 012 3. # dos 2.00 \$0.50 10.00 12.00 14.00 Rroad, Nos. 12 3. # dos 2.00 10.00 12.00 14.00 Rroad, Nos. 56 7 8. # dos 16.00 18.00 20.00 22.00 Callina.	Mi
l	Lathing, Nos. 0123. P dos 800 8.00 9.00 Prond Nos. 1234. P dos 800 12.00 14.00	W
1	Broad, Nos. 1 2 3 4 % dos 0.00 12.00 12.00 14.00 Broad, Nos. 5 6 7 8. % dos 10.00 18.00 22.00 22.00 Collins	H
١	Class Nos 122 # OOK 0.50 7.00 7.50	Dr
1	Lathing, Nos. 123. Pides 6.50 6.50 7.00 Peck's Champion Blade. dis 25% Shingling, Nos. 123. Pides 8.00 \$8.50 \$0.00	AI
١	Lath. Nos. 123	Ki Ki
-	Half, Nos. 123 # doz 8.00 8.50 9.00 Ax Patters, Nos. 123 # doz 10.00 11.00 12.00	Sil Pe
۱	Hay Knives. "Lightning" \$\psi\$ doz \$20.00, net Wadsworth's dis \$\psi\$	-
۱	Hinges.	Be
ĺ	Hinges. Gate, Western Gate, N. F. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E. Gate, N. E.	AI
1	Gate, Clark's, Nos. 1, 2, 3	Sn
	Gate, N. Y. State. # doz 65.50, dis 602 to 5 dare, Automatic. # 4 doz 65.50, dis 602 to 5 dare, Automatic. # 5 doz 61.50, dis 402 to 5 date. S. Ymour's	St
	Gate, hepard'sNos. 10, 20 & 25, dis 50&10 5 Roded b ind hipsesdis 60&10 5	St
	Rolled Pate dis 60&10 %	Ch Bu LU W
ł	Plate hinges 18, 10 & 12 in., \$7.00 \$ 100 \$dis 10 %	W
	Strap	Bo
	Rolled t Isod	Bo
	Screw Hook and Eye % in., 9c dis	
	Wrought Strap and T list, Dec. 20, '77dis 40210&10 %	Sq He W
	Hoes- Riveted Shank \$\psi\$ dos \$5 \infty\$, dis \$0 \$\$ \$\phi\$ dos \$5 \infty\$, dis \$0 \$\$ \$\phi\$ dis \$5 \$\$ \$\phi\$ dis \$5 \$\$ Pianters' dis \$0 \$\$ \$\phi\$ dis \$0 \$\$ \$\phi\$ dis \$0 \$\$	Ta
	Grub	Tu
	Scovill Pattern. dis 30 % Scovill Pattern, Handled. dis 25 %	C U.N
	Hick's Pat. Solid C. S. Scovill Patterndis 20% 5.835 % Winsted & Lave Planters' dis 25 %	No
	Planters dis 40 % Scovill Pattern. dis 90 % Scovill Pattern, Handled. dis 90 % Scovill Pattern, Handled. dis 90 % Scovill Pattern, Handled. dis 90 % Scovill Pattern dis 20 % Hick's Pat. Solid C. S. Scovill Pattern. dis 20 % Sc	Br
١	Bird Cage, Sargent's listdis 55\$10 %	Pr Pr
	Winsted & Lans, Scottin Fatters \$\psi\$ dos. \$\phi\$, not liberted Seg. Sargent's list	Ol
ĺ	Cotton (Humason Beckley Mfg. Co.)dis 40 % Belt	Br
İ	Weston's, No. 1, \$10.00; No. 2, \$9.00 \$\times \text{dis 25} \\ \text{Medili's, \$2.00 \$\times \text{dog}} \text{dis 10} \$\times\$	T
-	Cotton (Humason Beckley Mrg. Co.). dis 65 beit. Beit. dis 65 km di	1
	Celling, Sargent's list dis 600 5	Fa Di
	Coat and Hat, Reading	Di
l	gross and Even T & S. Mig Co.). dis 25 5 Tasses and Reture T & S. Mig Co.). dis 50 5 Wrought Staples and Hooks and Etaples. dis 60 80 16 60 80 16 60 1	Br
-	Wrought Staples and Hooks and ctaples dis fox to \$ Wrought Staples, Stanley's list	Po Po
i	Grass and Bush. dis 45@50 % Whiffletree—Patent. dis 25 %	Po
1	Hooks and Eyes—Malleable Irondis 60%10 % Hooks and Eyes—Brass	1
l	Herse Nails. Ausable: Nos. 5 6 7 8 9 10	Ms As Cr
١	Finish'd, & B.31c 28c 26c 25c 24c 23cdis 25% 5 %	
1	Clinton, Fin., W B 24C 22C 21C 20C 19Cdis 20%10 % Essex, W B31C 28C 26C 25C 24C 23Cdis 30 %	Be
í	Vulcan,	Be Mo Ba
	Hooks and Eves—Brass	Th
-	Forged " 28c 25c 23c 22c 21c dis 10 % Horse Shoes.	Le Pl
1	R. I. Horse Shoe Co., Perkins' improved Light, Medium and Heavy. Prices ruling date	Pi
The same of	Tee Awis, Chisels, &c.	Pla
1	National Ice Chisel # doz \$5.50 net National Ice Chisel # doz \$6.25 dis 20 5 Novelty Ice Breakers # doz 6.25 dis 20 5	Pla
1	White's Sliding Head Picks	Bu
	Wood Head Picks, Sargent's doz \$1.00 dis 40.210 % Iron Head Picks, Sargent's doz \$1.25 dis 40.210 %	Hi
	Ice Mallets, Pick in Head	Ga
ĺ	Work to Tongs Work to the	
-	Combination Ice Tools v doz 82.00 net	Ru P.
-	Combination Ice Tools	P.
The second name of the last of	Forged "26 240 220 220 210 cell. dail 10. Horse Shoes. Burden. R. Horse Shoe Co. Perkins' Improved Light, Medium and Reavy Prices ruling date Mule Shoes of shipment. I ce Awis, Chisels, Co of shipment. I ce Awis, Chisels, Co of shipment. I ce Awis, Chisels, Co of dog 85.00 net Satonal Lee Chisels of dog 85.00 net Satonal Lee Chisels of dog 85.50 net Satonal Lee Chisels of dog 85.50 net Satonal Lee Chisels of dog 85.50 net Satonal Lee Chisels of dog 85.00 net Satonal Lee Fricks of dog 85.00 net Satonal Chisels of dog 85.00 net Satonal Chisels of dog 85.00 net Satonal Chisels of dog 85.00 net Ice Mallets, Pick in Head of dog 85.00 net Ice Axes, Small Cast or Malleable of dog 85.00 net Ice Axes, Small Cast or Malleable of dog 85.00 net Ice Cream Freezers. Amn. Mch. Co dis 10.5 min. hep-than 13 inches of 850 net Satonal Cast of the Saton	Str
The same of the sa	Brass larger than 13 inches 3 350 net	Sta
The state of the last of the l	Brass larger than 13 inches 3 350 net	Sta Ch Ch Sta Sta
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	Eras larger than 13 inches. B 350 net Enameled. M 14 45 9 K 14 ves. M 14 ves. M 15 25 M M	Sta Che Che Sta Sta Joo Poo Da Sa File Va Che Le
the contract of the last of the contract of th	Brass larger than 13 luches. # 8 5cc net Enmeled dds 45 Enmeled dds 45 Enmel Butcher Knives. dis 20 5 Emel Butcher Butch	State Chesture Chestu
the contract of the last of the contract of th	Ernsa larger than 13 inches. Brass larger than 13 inches. Games' Butcher Knives. Ames' Butcher Knives. Ames' Butcher Knives. Ames' Butcher Knives. Ames' Brad Knives. Moran's Shoe Knives. Moran's Shoe and Bread Knives. Mis 25 Moran's Shoe and Bread Knives. Mis 25 Moran's Shoe and Bread Knives. Mis 25 Moran's Shoe and Bread Knives. Mis 26 Moran's Moran's Mis 26 Moran's Mis 26 Moran's Moran's Moran's Mis 26 Moran's	State Chesture Chestu
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The second is the first of the second	Erass larger than 13 inches. Brass larger than 13 inches. Enameled. Guis 45. Kuives. Ames' Butcher Knives. Ames' Butcher Knives. Ames' Butcher Knives. Ames' Brad Knives. Mis 20 5 Moran's Shoe and Bread Knives. Mis 20 5 Hay and Straw, Wadsworth's. Mis 20 5 Hay and Straw, Wadsworth's. Mis 20 5 Table and Pocket. Knobes. Carriage (Jap'd 8cc \$\pi\$ gross). Mis 6c&ro. Remacite Door Knobe Door, For More Door, For Pated. Door, For Pated. Door, For Pated. Door, For Pated. Purniture, Plain. Figure (Jap'd 8cc \$\pi\$ gross). Mis 20 5 Hemacite Door Knobe Purniture, Plain. Figure (Jap'd 8cc \$\pi\$ gross). Mis 20 5 Hemacite Picture Mis 20 5 Hemacite Picture. Mis 20 5 Hemacite Picture. Mis 20 5 Metting, Monroe's Patent. Metting, Monroe's Patent. With Guards 9c extra) No. 0, \$8.65; No. 1, \$10.15 net Mill City. No. 1; \$\pi\$ dos \$1.15; 0 fellows Metton, Monroe's Patent. With Guards 9c extra) Nail City. No. 1; \$\pi\$ dos \$\pi\$, 50.75; 0 gross Metton, Monroe's Patent. With Guards 9c extra) Nail City. No. 1; \$\pi\$ dos \$\pi\$, 50.75; 0 gross Metton, Monroe's Patent. With Guards 9c extra) Nail City. No. 1; \$\pi\$ dos \$\pi\$, 50.75; 0 gross Metton, Monroe's Patent. With Guards 9c extra) Nail City. No. 1; \$\pi\$ dos \$\pi\$, 50.75; 0 gross Metton, Monroe's Patent. With Guards 9c extra) Nail City. No. 1; \$\pi\$ dos \$\pi\$, 50.75; 0 gross Metton, Monroe's Patent. With Guards 9c extra) No. 1; \$\pi\$ dos \$\pi\$, 50.75; 0 gross Metton, Monroe's Patent. With Guards 9c extra) No. 1; \$\pi\$ dos \$\pi\$, 50.75; 0 gross Metton, Monroe's Patent. With Guards 9c extra) Metton, Monroe's Patent. With Guards 9c extra) Metton, Monroe's Patent. Mith Guards 9c extra) Metton, Monroe's Patent. Mith Guards 9c extra) Mith Mith Moran's Mith Guards 9c extra) Mith Mith Moran's Mith Mith Moran's Mith Mith M	State Chicken State Stat
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its & 10	Lines,—Linen Fish. dis 2c&to g Cotton Chalk. Nos. o, z, z, z, \$6.00. \$6.50, \$7.00. \$11. Lake Chalk. Nos. o, z, z, z, \$6.00. \$6.50, \$7.00. \$7.00. dis 25 g
£ 13	## Go. ## April April April ## April April April ## April April April ##
uet uet uet	Cabinet, Bridgeport) dis 25 22 5 Cabinet, P. & F. Corbin dis 25 22 5 Cabinet, A. E. Deitz
50 %	Langstroth & Crane's List, Jan. 1. '77 Round Key. Nos. 1 to 5
10 %	A. E. Deitz, Flat Key dis 30 gao 7 Yale Lock Co., Flat Key dis 40 9 "Shepardson" or "U. S." dis 35 9 "Felter" or "American" dis 35 2
10%	F. Many's "Extension Cylluder"
10 %	Norwalz
50 % 10 % 75 %	Mallory, Wheeler & Co. Whipple Mr. Co Trenton Lock Co Reading Hardware Co dis
10 %	Padlocks—Russell & Erwin
75 25 50 25 %	Romer's
75 25 00 30 %	J. H. McWilliams
00	Mallets.—Bickory dis 10810 8 Lignumvitæ
50 25 50 20 %	Dixon's (P. S. & W.) Nos. 1 2 3 4 4 5 5 5 6 5 6 5 6 6 7 6 7 6 7 6 7 6 7 6 7
00	Penneld Block Co., Lig., Apple & Hickory
10 % 50 50	Hules'Nos. 11 12 13 13 14 15.00 dis 30 % 12 13 13 14 15.00 dis 50 % 10 15.00 dis
25%	American
net	Each
10%	Beef Shavers (Enterprise Mfg. Co.)
10 % 50 % 10 %	Beef Snavers (Enterprise Mig. Co.). dis 2; % Mincing Knives. Am (cd quality), # gross, 1 blade, 7; 2 blades, \$12; 3 blades, \$10. Lothrop's. dis 20&10. \$ Smith s, # dos, slagle, \$2.25; Double, \$0. dis 315\$#10. \$ Cowles Haw. Co
10%	Stebbins Pattern. dis 70% to 8 Stebbins Genuine. dis 17/9/2010 % Stebbins Tinned Ends dis 50 % Chase's Hard Metal dis 70% to 50%
10%	Bush's dis 20 % Lincoln's Pattern dis 60% to 5 Weed's dis 15 % Boss Nos 1 2 4 4 5 5 6 6 6 7 6 6 7 6 6 7 6 6
is s	Smith's, § dox, Slagle, §2.25; Double, §3., dis 3tight's Cowles Halve, Co dis \$20.5 \\ Melansses Gates. \\ Stebbins Pattern dis 70&to \$ \\ Stebbins Genuine dis 50\\ Stebbins Tinned Ends dis 5
iis o %	Nuts and Washers, (in lots less than roo be add \$6 to list) Square Nuts. 70 off list Hexagon Nuts. 20 off list Washers. 6c off list Nut Crockers.
50 % 50 %	Washers. 6c off list Nu: Crackers. 1.00 mg/s Table (Humason & Beckley Mfg. Co
40 % 30 % 30 %	Blaker Frittern. dos g.co. hct Turner & seymour Mrg. Co. dls 55 C Oaknm. Best. PB 11 C U.S. Navy B 15 C
35 % 25 % 25 % net	Navy. * b \$500 Ollers.—Zinc and Tin
10 %	Oliers,—Zinc and Tin. dis 60 gras and Copper. dis 50 gras dis 50 g
40 % 10 % 10 %	Broughton's, Zinc dis 60 % Br sughton's, Brass dis co % Ox Balls des codito %
10%	Packings, Steam.
10%	Peuclis Paber's Carpenters'. high list, dis 50 S Faber's Round Glit. # gross \$2.50, net Dixon's Lead. # gross \$4.50, net Dixon's Lumber. # gross \$6.70, net Dixon's Carpenters'. dis 4000 S Picture Naits. Rass Head, Sarg and list. dis 52 Porcelain Head, 4000 S Proceded Head, 5000 dis 50 S Porcelain Head, 4000 dis 4000 Glits dis 50 S Porcelain Head, 4000 dis 50 dis 50 S Porcelain Head, 4000 dis 50 dis 50 S Pinking Frent. dis 50 dis 50 S
50 % 10 % 10 %	Brass Head, Sargunt's list
50 % 15 % 10 %	Porcelain Head, f. & S. Mfg. Co
5%	Pinting Machines. Magle Astor Plaiting Machine
10%	e in., 26.00; to in., 28.00 écch. Planes and Plane Irons. Bench, First Quality
10 % 20 % 30 %	Bailey's (Stanley R. & L.Co.) new list, Jan '7, dis 20&16 \$ The Stanley (S. R. & L. Co.) new list, Jan '7, dis 20&16 \$ Pailey's "Victor", dis 20&16 \$ Fathere Adjustable, dis 20&16 \$
1714 ate	Leffin Mg Co
net	Plane Irons, The Globe Mfg. Co., "Baldwin Iron" dis 22 \$ Plane Irons. Chio Tool Co., dis 2c \$ Plane Iron, Sandusky Tool Co., di 2c \$
00000 NWWW	Pilers and Nippers. Button's Patent. Button's Patent. Lill's Pat. Compound L. ver Cutting Nippers. No. 2, 5 in., \$20: No. 4, 7 in. \$10 \$ dex. Lill's Pat. Compound L. ver Cutting Nippers. No. 2, 5 in., \$20: No. 4, 7 in. \$10 \$ dex. Lill's Pat. Compound L. ver Cutting Nippers. Lill's Pat. Compound L. ver Cutting Nippers. Lill's Sale State Sta
net net net net	Humason & Beckley Mrg. Co
net 10%	P. S. & W. Cast Steel. dis 25 F. P. S. & W. Timers' Cutting Nippers. dis 15 F. Plumbs and Levels. Disston's dis 40 S.
net net	Plumba and Levels. Disaton's Stanley R. & L. Co.'s Far Adjustable. dis 6:&10 S Stanley R. & L. Co.'s NosAdjustable. dis 6:&10 S Stanley R. & L. Co.'s NosAdjustable. dis 6:&10 S Stanley R. & L. Co.'s NosAdjustable. dis 6:&10 S Chapin's NosAdjustable. dis 6:&10 S Standard Rule Co.'s NosAdjustable. dis 6:&10 S Pocket Levels. dis 6:&10 S Davis' Inclinometers. dis 6:&10 S Post Hele and Tree Augers.
5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Standard Rule Co.'s New Adjustabledls 65&10 % Standard Rule Co.'s Non-Adjustabledls 65&10 % Johnson's Patent Adjustabledls 65&10 % Pocket Levelsdls 65&10 %
ery	Davis Inclinometers. dls 20 % Post Hele and Tree Augers. Samson Post Hole Disger. \$\psi\$ dos \$27.50, dls 20 \$ Fietcher Post Hole Augers. \$\psi\$ dos \$37.50, dls 20 \$ Vaughan's Post Hole Augers. \$\psi\$ dos \$37.50, dls 20 \$ Vaughan's Post Hole - 6 in, \$27.50 7, 8 and 9 in, \$ 500 \$\psi\$ dos. dis 20 \$k10 \$ Eureks Disgers \$\psi\$ dos \$.70 \$ Leed's ach \$2.50. ses
ks.	6 in., \$22,60; 7, 8 and 9 in., \$ 5.00 \$ dosdis 20 in 5 Eureka Diggers \$ doz \$.700net Leed's each \$2.50net
88 W W W	Pruning Hooks and Shears. Disston's Combined Pruning Hook and Saw. Disston's Pruning Hook. Disston's Pruning Hook. E. S. Lee & Co.'s Pruner. Pruning Sheus. # doz & 51.50, dis 20 \$ Wheeler, M. & Co.'s Combination. # doz & 12, dis 20 & 15. # and Co.'s Combination.
W W W O	Pruning Shears
O D O O O O O O O O O O O O O O O O O O	Wheeler, M. & CO. & Combination. & dose 12, dis social > Paileys. Hot House and Tack!e
net	Hay Fork, "Anti-Friction"
net net no %	Punches. Belt or Drive
20%	Spring Leach's Pateut dis 15 % Eentis & Cail Co.'s Spring and Check dis 45 % Solid Tinners' doz \$1.44, 44 46 %
10 %	Rail, Sliding Door, Wrought Brass % to 4gc dis 20 % Sliding Door, Iron, Painted % foot 4c. dis 10&10 % Barn Door Inch
o %	B. D. for N. E. Hangers—Small. Med. Large.

April 27, 1882.	T
Razer Straps.	Sintes. Square Frames, by case
Rayer Straps. dis 50 @ 55	Nelson Tool Works
Imitation Emerson	Spoke Shaves. Defiance Metallic
Rivers. dis 20 ; Rivers. dis 20 ; Rivers. dis 40 ; Rivers. dis 40 ;	Spoke Shaves. Defiance Metallic. John Metall
Rivet% Tinned, new list, Dec. 10, 1881 dis 40% In bulk, new list, Dec. 10, 1881 dis 40% In bulk, new list, Dec. 10, 1881 dis 40% Copper Rivets and burrs dis 31% Nos. 7 8 9 10 11 12 13 14 15 05 8 9 10 14 12 05 05 05 05 05 05 05 05 05 05 05 05 05	Spoke Trimmers. @ dos \$10.00, dis 40&5 \$ Stearns'
Rivet Seisdis 40 %	and the state of t
Stair, Brass. dis 25 % Stair, Black Walnut. dis 40 %	Speens Basting
Barn Door, Sargent's listdis 60% 10% 10%	Reed & Barton
Mnfs Net Li t, Oct. 5, 1881, dis on 5000 B and over.	German Silver.
Manila 94 inch e n 164e Manila, Tar'd Rope 94 and 5 16 inch e n 17 e Manila, Tar'd Rope 95 17 e	Tin (P. S. & W.), Tables. \$2.00 \(\text{ gross}\), net Tin (Cowles Hdw. Co.). dis to \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Acme (Anti-Friedon). 16.09 ** Mnfs Net Li t, Oct. s, 1881, dis on 5000 B and over. Manila.	"Lightning Screw Plate
Sisal Hay Rope 4 and 5-16 inch & n 11/40 Sisal Hay Rope Boxwood. Ivory.	Minose
Rufes Boxwood Ivory Rufes Boxwood Ivory Standard dis 66% 25 dis 55% 10 \$ Standard Standard dis 66% 25 dis 55% 10 \$ Stephens dis 66% 25 dis 55% 10 \$ dis 55% 10 \$ dis 55% 10 \$ dis 66% 25 dis 55%	Washita Stone. No. 2, w m 164c net Washita Stone, Silps. No. 1, w m 4cc net Arkansas Stone No. 1, 4 to 6 in. W m 8cc net
stephens	Arkunsas Stone No. 1. 6 to 9 in # 15 \$2.00 net Turkey Oil Stone (Chase)
From 4 to 10 B	Lake Superior, Slips (Chase). \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
Mrs. Pott's Irons, Doubled Pointed. dis 55 % Mrs. Pott's Irons, Square Back. dis 55 % Enterprise Star Irons. dis 40 % Enterprise Star Irons. dis 40 % dis 40 %	Stove Polish
Saud Paper. Reeder & Adamson's Flint, oo to 1/6 \$4.75 F ream	"Mirror" \$ 4708 \$ 5.00, dis 5 5 Ruby \$ 75, net Rising Sun \$ 9 gross \$3.75, net
Sand Paper. Eacder & Adamson's Flint, oo to 1/6	
Bartles Filnt. \$4,75.85.25 \(\psi\) ream dis 35 \(\psi\) Bartles Harr'son, \$4.75 \(\psi\) ream dis 35 \(\psi\) Bartles Harr'son, \$4.75 \(\psi\) ream dis 35 \(\psi\) Dew England, same lift as B. & A. Filmt. dis 50 \(\psi\)	Squares. Steel. dis 50 %; full cases, dis 50 % 0 % 2 % Iron. dis 50 %; full cases, dis 50 % 10 % Nickel Plated. add \$2.50 % \$4.00 \(\) doz, net \(\) Cash Try Square and T Bevels. dis 50 % 10 % 0 % 0 % 0 % 0 % 0 % 0 % 0 % 0 %
Gage 8. dis 30% 5	Disaton's Try Square and T Bevels. dis 40 8 Winterbottom's Try and Mitre dis 20% to 8
Sask Cord. Common # b isc net Patent # b zoo net Silver Lake, Hemp. # b soc, dis 105 Silver Lake, white Cotton # b soc, dis 105 Silver Lake, Drab Cotton # b soc, dis 105 Silver Lake, Drab Cotton # b soc, dis 105 Silver Lake, Drab Cotton # b soc, dis 105 Silver Lake, Drab Cotton # b isc. dis 105 Silver Lake, Drab Cotton #	List of April 2, 1880. Tinned Swedes Tacks. dis 40 % Tinned American Tacks. dis 50 \$
	Swedes Tacks, all kinds. dis 30 g Copper Tacks and Nails. dis 35 g Swedes Hungarian Nails dis 90 g
Sash Locks. Clark's, No. 1, \$10.00; No. 2, \$3.00 per grossdis 23/5 5 Ferguson's	Gimp and Lace Tacks. dis 95 5 5 6 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Walker's. Hammond's Window Springs. Northup Window Springs, No. 1, \$10.00 \(\tilde{\psi} \) gross. dis 25 \(\tilde{\psi} \) Northup Window Springs, No. 1, \$10.00 \(\tilde{\psi} \) gross. dis 15 \(\tilde{\psi} \)	Common and Patent Brads dis 25 5 Basket Nails 0 18 25 5 Brush Tacks dis 25 5 5
Sash Locks. Clark's, No. 1, \$10.00; No. 2, \$3.00 per gross	Winterbottom's Try and Mitre die zokio x Tacks. Brads. &cc. List of April 2, 1880. Tinned Swedes Tacks. die 50 x Tinned American Tacks. die 50 x Swedes Tacks, all kinds. die 50 x Swedes Tacks. die 50 x Fulshing Nalls. die 50 x Fulshing Nalls. die 50 x Common and Patent Brads die 50 x Common and Patent Brads die 50 x Swedes Tacks. die 50 x Swedes Tacks. die 50 x American Cut Vacks. die 50
First Weights. coid Eyes, in 500 b lots and over b 15/c net Sausage Stuffers or Fillers.	Double-pointed Tacks dis 40 % % Tap Borers. dis 40 % %
*** dansage Stuffers or Fillers.	Ives Tap Borers dis 15&10 % Enterprise Mig. Co. dis 25 %
Silver's dis 25 % Silver's dis 26 % Silver's dis 40 % Disston's Circular dis 40 %	Tapes, Measuring.
Silver's. dis 24 % Disston's Circular. dis 40 % Disston's Mill. dis 40 % Disston's Mill. dis 40 % Disston's Cross Cut. dis 40 % Disston's Cross Cut. dis 40 % Disston's Lightning Cross Cuts, new list. dis 20 % Boynton's Lightning Cross Cuts, new list. dis 20 % Boynton's Due Min, all lengths, new list. dis 20 % Boynton's Die Min, all lengths, new list. dis 20 % Boynton's Lightning Buck Saws X Bar. dis 20 % Expriories Lightning Buck Saws X Bar. dis 20 % Vinceler & Clemson Mfg. Co.'s Hand. dis 20 % M. & C. Mfg. Co. Cross Cuts. dis 20 % Livingston's Butcher and Kitchen. dis 20 % Livingston's Framed Wood—	The mometers. Tin Case
Boynton's One-Man, all lengths, new list. dis 20% Boynton's Billet Webs, 30 Inch. new list. dis 25% Boynton's Billet Webs, 30 Inch. new list. dis 25% Boynton's Lightning Buck Saws X Bar. dis 25%	Enterprise Mrg. Co. (Champion) dis 25 % Wood Bottom w dos \$12.00, dis 40.85 % All Iron dos 65.5 %
Eoynton's Lightning Hand, Panel and Rip. dis 25 % Wheeler & Clemson Mfg. Co.'s Hand dis 30 % W. M. & C. Mfg. Co. Cross Cuts. dis 30 %	Wilson's dis 35 % Toe Calks. Winsted P b cc, dis 5
Livingston's Buttener and Kitchea. dis 20 & Livingston's Framed Wood— Nos	Toe Calks. Winsted. Page dis Tinners' Tools and Machines. Machines (P.S. & W.). Tools (P.S. & W.). Tools (P.S. & W.). Add 0 Transon Litters. Wollensak's Patent. Relher's Patent, new list, Feb., 1889. dis soctros to Excelsion. dis 50&1082 Transon.
Peace Circular and Mill. dis 40 5	Transom Lifters. Wollensak's Patent. dis 35 % Reiher's Patent, new list, Feb., 1882. dis 20€10% to ≶
White Vermont D dog \$1.05. dis 10%	Come Yewhouse
Red. Poitshed and Varnished. P doz \$1.0. dis 105 Saw Rods. Store	Traps. Game. New house dis 52 c Game. Oneida Pattern. dis 52 c Game. Hinke's Patent. dis 52 c Game. Hinke's Patent. dis 52 c Game. Hinke's Patent. dis 65 c
per dos, \$10.00. dis 20 % 81·liman's Genuine. \$\psi\$ dos \$3.50 and \$5.50 dis 10 % \$1 ilman's Unitation. \$\psi\$ dos \$3.25, dis 20\$.10 %	Mouse Cage, Wire
Common Lever	Treweis. Lothrops' Brick and Plastering dis 25 % Reed's Brick and Plastering dis 35 % Disston's Brick and Plastering dis 30 % Peace's Plastering dis 30 % Peace's Plastering dis 30 % Clement & May nard dis 5 % Clement & May nard dis 20 % Rose's Brick dis 15 % Brades' Brick dis 20 % Worrall's Brick and Plastering dis 20 % Worrall's Brick and Plastering dis 20 % G rd 30 . dis 55 % Trices.
Hammer, Bemis & Call Co.'s new Patentdls 30&5 % Hemis & Call Co.'s Lever & Spring Hammer. dis 30&5 % Bemis & Call Co.'s Piste	Disston's Brick and Plastering. dis 20 % Peace's Plastering. dis .5 % Clement & Haynard's dis 20 %
Bemis & Call Co.'s Cross Cut. dis 12/5 % Alken's Genuine. \$13.00, dis 50% 10 % Alken's Imitation. \$7.00, dis 50%	Brades Brick dis 20 % Worrall's Brick and Plastering dis 20 % Grden dis 50 %
Hart's Patent Level No. 1, \$15; No. 5, \$52, dis 20 \$ Morrill's No. 1, \$15; No. 5, \$52, dis 35&10 \$	Triers. Butter and Cheesedis 25 5 Trucks (Warehouse, &c.
Hatch, Counter, No. 171	Penfield Block Co., Reduced list March 4, 1882dis. 25 % Viscos.
Fair banks". 418 20 % Buffalo Scale Co. 418 20 % Forsyth Scale Co. 418 25 % Forsyth Scale Co. 418 25 %	Vises. Solid Box. List of July 1, '79, dis 35, % Solid "Crown." (A. H. Hildick). 40 to 100 \$5, 15c net Solid, Peter Wright's
Chatfillon's Grosers' dis 40 % Chatfillon's Eureka dis 25 % Family Universal dis 55 %	Parallel, Parker's dis 10 5 Parallel, Wilson's dis 20 810 5 Parallel Howard's dis 20 810 5
Family Favorite. dis 30 % Family, Turnbull's dis 30 % Scale Beams, List of January 12, 1882. dis 33\6\cmathcal{k}10 %	Solid, Peter Wright's 15% Solid, Wilkinson's 15% Solid, Wilkinson's 15% Parallel, Parker's dis 10% Parallel, Wilson's dis 35% to Service of the Service of
Adjustable Box Scraper (S. R. & L. Co.), \$6.50, dis 20&10 % Box, 1 Handle	Parallel, Oval Sinde 618 40 % Parallel, Double Screw Leg 618 40 % Parallel, Prentiss 618 40 % Parallel, Stynson's Adjustable 618 25 %
Defiance Box and Ship dis 20210 5 Foot dis 45260 5 hip, common # doz \$3.00 net	"Family," List Saw Filers, Bonney's P doz \$24.00, dis 202.10 \$ Saw Filers, Stearn's dis 202.10 \$
Screen Covners. Forter's Pat. Window and Door Framedis 33½	Saw Filers, Hopkins' # 602 \$17.50, dis 10 5 Reading. dis 25 Cowell Hand Vises. dis 25 7
Same Beams, List of January 12, 1882. dis 3315&10 S errapers. Adjustable Box Scraper (S. R. & L. Co.), \$0.00, dis 20x105 BOX, 1 Handls. did 0.5 k.o., dis 10 S BOX, 2 Handls. did 0.5 k.o., dis 10 S BOX, 2 Handls. did 0.5 k.o., dis 10 S BOX, 2 Handls. did 0.5 k.o., dis 10 S BOX, 2 Handls. did 18 S ENGL did 10 S ENGL did 18 S	Washer Cutters. 2 dos 812.00, dis 25 %
Buck Bros Stanley Rule & Level Co.'s, Varnished Hdisdis 50210 5 Stanley Rule & Level Co.'s, Black Handlesdis 40210 5 Stanley Rule & Level Co.'s, Black Handlesdis 40210 5	Winth's Patent. # dos \$12.cc, dis 25 \$ Johnson's # dos \$12.cc, dis 25 \$ Johnson's # dos \$12.cc, dis 25 \$ Penny's # dos \$14.cc and \$16.cc, dis 25 \$ Appleton's # dos \$16.cc, dis 65 \$5
Gay's Double Action Ratchet Ratchet Ratchet Gay's Double Action Chutch Mallett & Co.'s Double Action Chutch	Washers.—See Nuts and Washers. Well Wheels
Double Action Ratchet St. 200	Well W Beels. Wire. Brass and Copper, list of June 10, 1880. Bright and Annealed. Nos. 0 @ 18, dis 50 @ 526 5 Bright and Annealed. Nos. 10 @ 26, dis 65 5 Coppered. Coppered. Nos. 0 @ 18, dis 65 6 Coppered. Nos. 0 @ 18, dis 65 6 Coppered. Nos. 0 & 18 & 46 4 5 6 Coppered. Nos. 0 & 18 & 46 4 5 6 Coppered. Nos. 0 to 18. Cast Steel. June 10, 18 & 45 5 Cast Steel. June 10, 18 & 5 6 Cast Steel. June 10, 18 & 6 5 6 Cast Steel. Annealed Fence. Nos. 8 & 9 & 46 5 6 Cast Nos. 0 to 18. Cast Steel. Annealed Fence, Nos. 8 & 9 & 46 5 Cast Nos. 0 to 14. Calvanized Telegraph, Nos. 10 to 14. Calvanized Telegraph, Nos. 10 to 14. Calvanized Telegraph, Nos. 10 to 15. Cast Steel. Select Nos. 10 & 9 & 5 6 6 Calvanized Telegraph, Nos. 10 to 15. Calvanized Telegraph, Nos
Cowles Hdw. Co., Nos. 4 and co. dis 30 % Clark's Patent dis 20 % Clark's Patent	Bright and Annealed. Nos. 27 @ 36, dis 65 % R Coppered. Nos. 0 @ 18 dis 45 @ 47% % Galvanized. Nos. 0 to 18
Screws Fateur Screws Screws Screws Screws Screws State	Tinned, Nos. 10 10 10 10 10 10 10 10 10 10 10 10 10
kound flead Brass. New list April 27, 1881. dls 20 % Brass and Silver Capped. dls 40 % Japanned, list of Plain Screws. dls 20 %	Annealed Grape, Nos. 10 tó 14
Coach, Common or Leg. dis 60 % Bed dis 10 % Machine, Flat Head, Iron dis 55 %	Galvanized lengraph, 40 F B 105c Fence Staples, Galvanized F B 7 G 74c c Fence Staples, Galvanized F B 7 G 74c Stub Steel Wire
Machine, Round Head, Iron dis 50 % Beneh, Iron dis 55 % Beneh, Wood, Beech	Japanned Barb Fence \$\forall b \text{ \$\frac{1}{2}\$ \$\f
Machine, Round Head, Iron dls 50 % Bench, Iron \$\psi\$ doz \$\frac{3}{5}\$\cdot \cdot d\si\$ \$\frac{5}{5}\$\cdot \cdot \cd	Turner & Seymour Mig Co., Fict are Wire, low list dis 40 5 Judd's Picture Wire
Hand Rail, Am. Screw Co., list of Jan. 1, '81 dis 70 % Jack (Wilson's)	Wire Cloth drab and black
Screw Window Balances. R. B. Hugunin's, No. 1, \$2.10; No. 2, \$1.74; No. 3, \$1.50. \$1.50. \$1.50. \$2.100. \$2.100. \$2.100. \$3.100. \$4	Eaxter's Adjustable "S," list Jan., 1880 dis 2025 \$ Baxter's Diagonal dis 2025 \$ Coes' Genuine dis 4020 \$
Rogers, 83-50. dis 25 % Rogers, 83-50. dis 25 % Shears and Scissors.	Coes Pattern Malleable dis 40 stoss 5 S Coes Pattern Wrought dis 65 S Girard Standard
Pruning	Girard Agl
Rogers, 83.50. dis 25 % Risears and Selssors. American (Cast) Iroa. Pruning Hooks and Shears. Barnard's Lamp Trimmers. dogs 37.75 Tinners' dis 1, 5 % Seymour's, List, Dec. 1881. dis 60 % Heinsch's Talist, Dec. 1881. dis 50 % Heinsch's List, Dec. 1881. dis 50 % Heinsch's Talist, Dec. 1881. dis 50 % Heinsch's Talist, Dec. 1881. dis 50 % Mass. Culterf'or Schears. dis 75 % Mass. Culterf'or Co. St. Trimmers. dis 75 %	Bemis & Cali's Brigg's Pattern
Sheaves. Sliding Door, M. W. & Co., list	Wire Cloth drab and black . \$ sq. ft. 28cc net Wrenchen, American Adjustable
Sheaves. Sidding Door, M. W. & Co. Hst. dis ox 10% % Sidding Door, R. & E. Hst. dis ox 10% % Sidding Door, Patent Roller. dis ox 10% % Sidding Door, Patent Roller. Hat firld dis ox 10% % Sidding Door, Patent Roller. Hat firld dis ox 10% % Sidding Door, Fatent Roller. Hat firld dis ox 10% % Sidding Door, Fatent Roller. Hat firld dis ox 10% % Sidding Shatter, R. & E. Hst. dis ox 10% % Sidding Shatter, R. & E. Hst. dis ox 10% 10% Sidding Shatter, Rangent's Hst. dis ox 10% Sidding Shatter, Rangent's Hst. dis ox 10% Houre's Anti-Friction (Hanging). dis ox 10% Shavels and Spades.	Wringers, Perdos. Perdos. Universal, XX, No. 216. 65.00 Universal, XX, No. 2 65.00 Universal, XX No. 2
Sliding Door, Moore's Anti-Friction	Universal, XX, No. 1. 93.00 12 Universal, XX, No. 2. each 12.00 13 Universal, XX, No. 2. each 12.00 15 Universal, XX, No. 12 each 12.00 15 Universal, XX, No. 12
Stiding Shutter, Reading list A	Universal, XX, No. 18
Griffitha dis 40%19 % Old Colony. dis 15% Payne Pettebone & Son. new list. dis 40%19 %	Peerless, No. 25, with Cogs. 63.00 Peerless, No. 3, with Cogs. 63.00 Peerless, No. 3, with Cogs.
	Petrless, No. 4, with Cogs 89.00 0 Unique, No. 0 51.00 Z Unique, No. 1 54.00 Z
Shovels and Tonge. from and Brass Head, R. & E. listdis fodioks & Foliahad Steel, new list	Webster's Patent Combination

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CIRCULAR SAWS.

I use none but best refined cast steel, sefected. All saws subjected to a careful examination before shipment. A trial of our goods will satisfy the purchaser of their excellence.

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Heating and Purifying Water for Steam Boilers. Patented July 12 1877 Has Straight Tubes. SIMPLICITY,

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For determining the constituents of a Clay, Slag,
Coke, or of an Ash in Coal the charges will corres
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The door can be taken off the hinges and replaced with perfect ease Send for circular and prices.

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Hand Hoists

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These Hoists are specially constructed to raise heavy weights with ease and rapidity. They can be suspended from any beam or bar, and fitted to lift any hight. It any hight.

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The 60c-pound size is now ready; with it one man can easily lift 600 pounds. Send for Price List.

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We offer the Star Lemon Squeezer to the trade, claiming that in all essential points it is superioto any other in use. One great advantage it possesses over others is the greater length of handle making it much easier to do the work.

Packed in neat wood boxes of ½ dozen each. One gross in a case.

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Letters Patent of the United States were issued to

Wm. 6 Dean for improvements in Lemon Squeezer,
consisting among others in supplying them with legs
and with a removable judee cup held in a frame.

Now this is to notify all persons making, vending or
using Lemon Squeezers with the said improvements,
or either of them, that I will hold them essnonsible in
damages for infringement of the soid Patent.

No.

PATENT PORTABLE

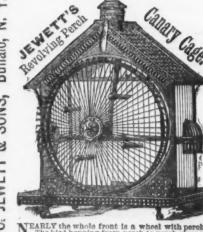
COMBENES,

First—A Portable Vessel (galvanized iron) containing the filtering medium, Second—An Outer Case, fitted to receive said vessel with cover, Third—A Porcelain-lined Water Cooler.

123°



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Elizabethport Steam Cordage Co., MANUFACTURERS OF MANILA, SISAL AND TARRED

CORDAGE OF ALL KINDS. BINDER TWINE A SPECIALTY.

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NEW YORK WHOLESALE PRICES, April 26, 1882.

	TOLLOWER THIOLOG
METALS.	All Mandrei Drawn Tubes under % in. 2 cents par pound advance.
	pound advance. Plain
ikiN.—Duy. Bars, i to 1%c. ♥ %; Sheet, Bar HJD and Scroll, 1¼ to 1%c. ♥ %; provided, that not it the above Iron shall pay a less rate of duy the 3% per cent. Pig, \$7 ♥ ton; Polished Sheet, 9c. ♥ % Wrought Scrap, \$8 ♥ ton; Cast Scrap, \$6 ♥ No. Rai road, 7oc. ♥ 100 %. Boiler and Plate, 1%c. ♥ %.	Fancy 27 Fancy 33 Fench and Extra Patterns 33 53 54 Fench and Extra Patterns 30 54 Fench and Extra Patterns 50 50 50 50 50 50 50 5
Foundry, No. 1x	15 Per cent
Graph Grant Gran	15 Per cent. 1.10 27 Per cent. 1.60 STEEL.—DUTY: Bars, Ingots, Sheets and Colls, Valued at 27 P. S. or under sales over a non control of the
Coltness	or Fer cent 1.00 Fer cent 1.00 FER L.—DUTY: Bars, Ingots, Sheets and Colis, Valued at 7c % 8, or under, 2c/4c; over 7c and not above 11, 9c % 8, or under, 15/4c % 8, and 10 % ad valued 11, 9c % 8, and 10 % ad valued 1.00 Fer cent 1.00 FER L.—DUTY: Bars, Ingots, Sheets and Colis & C
Redcar No. 3 P ton 22.	rrom Iron by the Bessemer or pneumatic process, of whatever form or description, shall be classed as American Cast Steel. For American Steel see quotations under heading of
From a mill	Pittsburgh. English Steel. Dest Cast. P b 155c
Wrought Scrap # ton, from yard 30.00 Wrought Scrap, to arrive 28 50	Round Machinery, Cast # b 1000 Swaged, Cast # b 1800 Best Double Shear # b 1800
Har Iron from Store. Common Iron 4 to 1 in. round and square	dilster, ist quality. \$\pi\$ b 13c German Steel. Best \$\pi\$ b 1ic ad quality. \$\pi\$ b oc ad quality. \$\pi\$ b oc
	whatever form or description, shall be classed as American Unst. For American Steel see quotations under heading of Pittaburgh. Bost Cast. Extra Cast. For 10% Bost C
\(\) to the round and square. \(\) \	LEAD.—DUTY: Pig, 2: F 100 B Old Lead, 11/2 F B.
Sheet From. Common American American American Sos. 10 to 20. P b 4 c c c c 2 to 24. P b 4 to c c c 2 to 24. P b 4 to c c c 2 to 25 to 26. P b 4 to c c c 2 to 25 to 26. P b 4 to c c c c c c c c c c c c c c c c c c	Nation
21 to 24.	Shot
R 2d qual R 8 2d qual R 8 8 7 6	N. P. U
Galvanized, 25 to 25	w m; Electro-gaivanised Flates, ac w m; Manufac- tures of, not enumerated, 35 per cent. ad val. Bars, Block and Pigs free. Banca, subject to duty of 1c per cent.
Russia	Block and Pigs free. Ranca, subject to duty of 1c per cent. Banca. Ph 26 & 29c Straits. Ph 26 co
which Copper is a component of chief value), 45 ; ad valorem. American Ingot	I C 10X14 PrimeCharcoal
SHEATHING BRAZIERS COFFEE, BOLTS, &C. Brazier, Copper, ordinary sizes, 16 oz. per sq. ft., and o er ? B	1 X 10374 Prime Charcoal. 8.25 1 X 10374 Prime Charcoal. 8.50 1 X 10374 Prime Charcoal. 8.50 D U 124577, Prime Charcoal. 6.50 D X 124537, Prime Charcoal. 8.50 D X 124537, Prime Charcoal. 8.50 Prime Charcoal. 8.50 1 X 124537, Prime Cha
and over 120k., \$\Pi\$ sq. ft	D X 125 x 17, Prime Charconl 8.00 For each add tional X add 2.00 CORE TIN PLATE.
Circles 84 in. diameter and over	CORE TIN PLATE. Drdinary I C 10X14
which Copper is a component of chief value, 45; ad valorem. American Ingot	TERNE PLATE. Prime Char. ad Qual. Coke. I C 14x2085-75 4.90 5.25 ⊕ 5.37%
All other size Sheets, 2360 P sq. ft. For tinning both sides, double the above amount.	1 C 14326 M. F. Brand 7.7.7 6 5 00 SOLDER - 1/4 2 1/2 100 Extra 150 No. 1 13960
o'REILS PATEST PLANBHED COFFER.—Not. 14 and 16 oz. and heavier. ** b 37c By the case. ** b 36c * oz. and lighter	SPELTER.—DUTY: In Pigs, Bars and Piates, \$1.50 \$\pi\$ 100 \text{B}. American, cash
24 and 16 oz. and heavier. # B 390 By the case. # B 380 (And all sizes not over 20 in. wide.)	256 % B
14 and 16 oz. and heavier	Paper Stock, &c.
Brown & Sharp's Gauge the Standard for Metals. Old English Gauge the Standard for Wire. BRASS MANUFACTURERS' PRICE LIST,—dis. 20 @ 25 %.	(Dealers' Selling Prices.)
Cash prices for Roll and Sheet Brass. For less quan	White Shirt Cuttings, No. 1
All Nos. not thinner than to No. 38, wider than 3 in. not wider than 1 in	City Whites, No. 1
in, inclusive	New Seconds, dark
sc. F b advance on each No. above Nos. 30 to 35, in- clusive. All Brass thinner than No. 8 is Platers' Brass, at	Seconds, City No. 1
TIDLETE ELLICES	Secondary Carlo Secondary
## ## ## ## ## ## ## ## ## ## ## ## ##	Buriap Bagging, No. 1 2½ 6 25 Tar Stakings 2 6 25 Hemp Twine Stock 4½ 6 45
LOW BRASS.	Soft White Shavings, No. 1
Gilding Metal, 8c F is more than High Brass. In Bars. Sawed Sawed Sic Flaned or Polished S4c	Book Stock No r Hight
for string.	Old Newspapers 114 2 24 24 24 25 26 24 25 26 26 26 26 26 26 26 26 26 26 26 26 26
detail, in width 2 in. to 1 in. thinner than No. 28, 30 W B advance. fetail in width 1 in. to 1/4 in. thinner than No. 28, 30 W B	Straw Board Cuttings
advance. letal in width 1/4 in. to 1/4, inclusive, not thinner than No. 28, 20 F B advance. letal, in width 1/4 in. to 1/4 thinner than No. 28, 50 F B	Paints, Oils, &c.
advance. feral, ¼ in. in width and less, 10c ?? B ndvance. iny of the above widths cut to particular lengths, add ?c ? B. greday silver market metal. AND WIRE.	Black Lamp, Coach Painters. Black Lamp, Ordinary Black Lamp, Ordinary Black Ivory Drop, fair Black Ivory Drop, best Black Ivory Drop, best Black Ivory Drop, best Black Paint, in oil Regs 8c; asset cans, itc Blue Prussian, fair to best Blue Prussian, fair to best, in oil 45 @ 550 Blue Chinese dry 70c Blue Ultramarine
per cent., 12 inch to No. 26	Black Paint, in oil
1 1.02 I.12	Blue Ultramarine
sore than 1 B., $\S 2 \notin \mathbb{B}$. Advance 2c. for each additional Inch in width above 2 in. and 2c. Ψ B on each No. thinner than Nos. 26 to	Green, Chrome, in oil
6, inclusive. All German Silver thinner that No. 36 is Platers', at 22. \$\Pi\$ additional. German Silver Scrap, one-half less than not price of	Iron Paint, Brown # B 19cc Iron Paint, Purple # 75 3 c Iron Paint, Ground in oil, Bright Red # 55cc
c. & b additional. German Silver Scrap, one-half less than net price of in. Market Metal. German Silver Turnings, Filings and Chips, half the price of Scrap. FRASS AND COPPER WIRE. Gild'g and	Blue Chinese dry Blue Chinese
High Brass. Low Brass. Copper. a, o to 2:	Ornngo Mineral to: Hed Lead, American
0.23	Red Indian dry 9 € 12c Rose Pink 10 € 13c Sionna American, Raw 4c
0.26. 41 49 45 0.27. 48 42 15 0.28. 55 59 60 0.39. 55 59 60	Rose Fink 10 13c
0.31	Umber, Raw
0.33. 74 74 75 76 1.03 Spring Wire ac F & advance Spring Wire ac F & advance Flat. Square and Half-Round Wire 5c F & advance a Round Wire. Fancy Wire not less than 1cc F & advance on Round line. Flack No. 8 and larger, not less than 2 feet	White Lead, American pure dry
prince thous, and a many managery	White Fead, American, pure in oi
agths, 30c. Wire straightened and cut smaller than No. 8 and of less than 2 feet lengths, 43c. Wire and Rods less than 2 feet lengths, special rates. Twelve cents per B extra for spooling on 1 B spools.	Yellow Ochre, Vermont in casks, 1/4c Yellow Chrome in class, 1/4c Yellow Chrome, in oil in casks, 1/4c
ness Dell Pare	Yellow Ochre, Vermout. In casks, 1/4c Yellow Chrome. 17 @ 27c Yellow Chrome, in oil. 14 @ 15 @ 25c Yellow Chrome, in oil. 14 @ 15 @ 25c Zinc White, American No. 1, in oil. 9c Zinc White, French (F-1/18) dry. 8 @ 10c Zinc White, French (F-1/18) dry. 0 @ 17c Zinc White, French in oil. 0 @ 17c Zinc White, Zinc Zinc Zinc White, Zinc Zinc White, Zinc Zinc White, Zinc Zinc Zinc Zinc White, Zinc Zinc Zinc Zinc Zinc Zinc Zinc Zinc
igh Brass Scrap Scrap 140 ow Brass Scrap 140 dding Turnings, Fi thes and Chips half the pice of Scrap. Terms—Net cash. Laterest to be adde after thirty	Zinc White, French, in Oil. Linseed Raw, in casks and bbis. gal. 57 @ for Linseed Boiled, in casks and bbis. gal. 53 @ for Bleached Whate. #gal. 53 @ for Bleached Whate. #gal. 53 @ for Bleached Sperm. #gal. 51 az Bleached Sperm. #gal. 51 az Bleached Elephant. 740 Signal. 740 Signa
Turnings, Fitnes and Chips haff the pice of Scrap. Terms—Net cash. Lateress to be adde after thirty avs. Terms—dia_ss	Bleached Sperm
TURE 30.—dis. 25 %. P B lain No. 2 inclusive above \(\frac{1}{2} \) in. to 3 in	No. 1 Extra
Number. 08. 24, 25, 26, four cents advance on List for each Number. bove No. 20, special rates.	450
lain, 4 inch	Empire Cylinder Off 6cc Machinery 40° Engine
Prices. aucy Tubing to No. 20	Minaral Wool, ordinary # 5 m
Frices. ancy Tubing to No. 20 ancy Tubing to No. 20 ancilah, scotch and Estra Patterns Fancy Tubing to No. 20 abingsawad or Cut 2 to 4 feet long, 2 cents advance on List. add to cents by sent for each additional cutting	Benzine # gal. 5c @ 9c Chalk # gal. 5c @ 10c Chalk, Block # 6c
under 22 feet	MATTER PRINTS AFTER SAN'S COME OF PART TO

				-		
nder % in.	cents nor	Fratings				40
	cento per	Frostings Giue, Wnite Glue, Sheet Glaziers' Points, Zinc			*******	24 @ 35
-dis. 25 %.		Glue, Sheet				20
***********		Gum Conel			******	26
		Gum, Copal				29
BINGdis 10	%	Gum Shellac, English			******	44
		Gum Shellac, English, dark		******		40
			*******	******	******	750
		Punice Stone, Powdered	as pro			
		Pine Tar, bbis			83	@ \$3.2
		Pitch	******	******	*******	\$2.4
			******	******	*******	3
rots. Sheets	and Coils, r 7c and not l 10 % ad val, in part Steel, cast or made	Rosin-Common and Good.	Strait	ned		12 A7L
2434e ; ove	r 70 and not	E&F			89.45	(d. 83.0:
oc # D, and	l 10% ad val,	G & H			82.80	@ \$2.90
allway Bars,	in part steel,	1 & K			83.10	@ \$3.30
or phonyst	e process, of	Snights Turnantino			83.00	0 84.10
on, shall be o	lassed as	Whiting Spanish	*******	*******	50	
		Waste, No. 1 Cop Waste, No. 1 White Machine Waste, No. 2 White Machine				100
tations unde	er heading of	Waste, No. 1 White Machine		******	*******	100
		Waste, No. 2 White Machine		*******	******	9560
	P n 1516e	Waste, No. 1 Colored Waste, No. 2 Colored Waste, Washed Machine		*******		6160
	P B 1014C	Waste, Washed Machine				gc
	D 1014C					
	W B 180	Prices ourrent pe		of to f	to the	
	# B 15/60	New list, Jan	Hary I	2. 1882.		
	W B 110			1	-	
	# B 100	Single	-			-
	P 10 9C	SEZES.	185.	ad.	3tL	4th.
	P D 15160	6 x 8 to 10 x 15	A10.00	0 0.00	0 000	8 8.40
	# 201236C	11 X 14 to 16 X 24	11.50	10.75	10.25	9.50
		18 X 22 to 20 X 30	14.76	13.75	12.50	88.50
o a Old Le	rade Report;	15 X 36 to 24 X 30	16.50	14.75	13.00	
o a one ac	seed while & me .	20 X 26 to 26 X 44	17.50	10.00	14 00	1
		26 X 46 to 30 X 50	20, 40	10.25	10.50	1
************	656c. net .756c, dis 10 % 15c, dis 10 %	30 x 52 to 30 x 54	22.75	21.00	18,00	
***********	7%C, dis 10 %	30 x 56 to 34 x 56	24.00	22.00	19.75	
	Re. dia to \$	34 X 58 to 34 X 00	25.25	23.75	21.50	
Droj	8e, dis to %	0 x 8 to 10 x 15, 11 x 14 to 16 x 24, 18 x 2 to 20 x 30, 15 x 36 to 24 x 30, 26 x 26 to 24 x 35, 26 x 26 to 26 x 44, 26 x 46 to 20 x 50, 20 x 36 to 20 x 54, 20 x 36 to 34 x 46, 34 x 36 to 34 x 56, 34 x 36 to 34 x 56, 36 x 60 to 40 x 6).	20.40	1 30,00	1 23-75	
	8e	Donoic	A SELECTION		-	
METAL		BIXES.	zat.	20.	3d.	420.
	. P B 90	6 x 8 to 10 x 15	@12.00	Ara 25	\$11.75	811.00
Tagger and	Torne vic	11 X 14 to 16 X 24	15.75	14.75	14.00	- DE1.00
lates, ac W I	Terne, 1.10; Manufac- d val. Bars, to duty of 10	11 X 14 to 16 X 24	20.00	18.50	17.00	
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***********	₩ 15 26 @ 290 ₩ 15 260 ₩ 15 260	26 x 46 to 30 x 50 30 x 54 to 30 x 54	30.00	28.00	24 00	1
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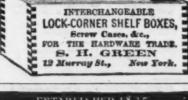
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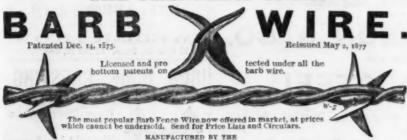
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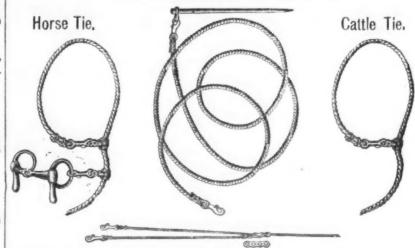
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This is an annual, presented free to every Subscriber to the IRONMONGER AND METAL THADES! ADVERTISER. It contains a large number of ruled skeleton pages for diary and other entries, and in addition much useful reference information, varied from year revear. It is handsomely bound in cloth, gilt; and as copies are used in thousands of establishments for a whole year, it is obviously a medium of exceptional value for advertisements. Sold to non-subscribers at 75 cents.

THE FOREIGN SUPPLEMENT. With which is incorporated The Universal Engineer,

is published every fourth week in connection with the extensive and world-wide circulation of the Ironmonger Itself. The dates of its publication for the next twelve months will be as follows:

MAY 30. JUNE 17. JULY 8. AUGUST 5, SEPTEMBER 2 and 30, OCTOBER 28, NOVEMBER 25, DECEMBER 23, 1882, JANUARY 20, FEBRUARY 17, March 10, APRIL 7 and MAY 5, 1883.

This Supplement is published in

FOUR LEADING COMMERCIAL LANGUAGES

of the world, including English, and is sent to all the countries where they are spoken, thus placing the contents of the Ironnonger not only within reach but in the native language of eighty millions of German, forty-two millions of French, twenty-eight millions of Italian, and fifty-one millions of Spanish speaking people; or, in all, over two hundred millions of inhabitants in the primainal nations where the best purchasers of manufactured goods are to be found. Advertisements are inserted in any language at the following

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so far as our experience of twenty years is concerned, will be covered by The Foreign Supplement at east twice a year. Thus a Price List or Advertisement inserted in the from one of the from one of the desired with any of publicity must be compared with any of the desired with any of the desired of communication.

HENRY DISSTON & SONS,

KEYSTONE SAW, TOOL, STEEL & FILE WORKS,

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DISSTON'S SAMSON TREE PLANTER AND POST HOLE DIGGER.



Patented May 29, 1870.

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No Farmer, Nurseryman, Railroad or Telegraph Company

SHOULD BE WITHOUT ONE.

NO BACK-ACHE.

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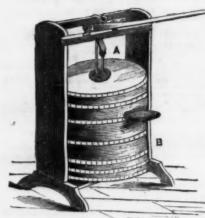
This tool has been thoroughly tested, and has given the greatest satisfaction to all who have tried it. The principle on which it works makes it self-cleaning and prevents adhesion in sticky soil; therefore it always works free and easy. It is far superior to all plungers, augers and boring machines, as it works well in stony, sandy, or clay soils; quicksand under water is as easily removed as though no water existed.



Plunge the Digger into the ground, as shown in cut, Fig. 1, and when the soil is loosened pull out the lever with one hand, as shown in cut, Fig. 2, which will press the dirt between the blades; then draw the Digger from the hole, keeping hold of the lever with one hand and the handle with the other. When the Digger is clear of the hole, you can deposit the load anywhere within reach by simply pressing down the lever, which will open the blades and the dirt will fall from between them. The Digger is then ready for another plunge. The steel blades are nine inches long, and the whole tool five feet long. For sale at Hardware and Agricultural Stores.

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EEGER Jack CREWS Cast with perfect seamless thread by new patent process. uch cheaper than wrought iro warranted to stand more pres Liberal discount to the trade. SEEGER MFG. CO.,

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Hill's Hog Ringers, and 100,000,000 Hill's Triangular Rings; 95 per cent. of our goods are handled by the Jobbing Trade under a guarantee of prices."

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7 inch. 5 inch.

5 inch. 4 inch.

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4 inch. Over 150,000 Feet Sold in 1880. It is made from best quality I. C. Leaded Charcoal Flates formed in half circle and beaded on the e with ½ inch round bead, closed down to body of trough, so that it can be soldered as strength may quire. Our different sizes measure full across diameter, and we pack in uniform crates or boxes of feet each, ready to be put together in any desired length. We make three sizes, suitable for any letter and can also recognite to crate.

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Terms, 30 days. For 60 or 90 days, interest added at to per cent. per annum.	Speens. Plated German Silve
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Rolary Peach Parers. Lots of 10 to 25 dozen special prices.	Tinned Springs.—Tor Philadelphia. Chatheid No. Gem Coti No. No. No. Stocks and Il Stove Polish
A xes. Hunt's Kentuckv and Yankee, per dox \$10.00 @ 10.60 Hunt's Ren Warrior	Stocks and D Stove Polish Dixon
Richland Chief	Onyx. Tacks. Shoe Nails—4
Augers and Auger Dies, new Link January L.	Traps.
Batter Nut Augurs. dis pokto 5 Cook's Augers. dis pokto 5 Watrous' Ship Augers. dis pokto 5 Watrous' Ship Auger Bits dis pokto 5 Griswold Auger Bits dis pokto 5 Griswold Auger Bits dis pokto 5	Genuine One Im. Oneida— Vises.—Solid
Griswold Augers and the space of the space o	Wrenches.— Coes' Genuin
Bolney's Pat. Hol. Augers, list \$48 \$4 dozdis 20&10 Balsaces. Light and Common	
Light time Common.	Wire. Bright or An
Bells. Bros. Mfg. Co. Light Hand Bells dis 65&10 % Swiss Pattern Hand Bells low list dis 10&10 % Connell's Door Bells dis 20 % Ot Western & Kentucky Cow, new list dis 50 %	Coppered, ot Tinned Broom Gaivanized
Ut. Western & Kentucky Cow, new list dis 50 % Bolt and Hivet Clippers. Bolt and Hivet Clippers. Chambers' No. 1, for \$6 bolt each, \$7.50 cm No. 2, 15 % 10 10 50 cm dis 15 % 10 10 50 cm dis 15 %	Wringers. Peerless No.
1 No. 3 1 5 1 12.00)	Universal, No.
Gorins Machines. Upright, without Augers	11076117, 1101
Philadelphia new list dis 70-210 % Stanley, Wrought Shutterdis 502 10 %	P
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American Ball	TREMS Note rate of exchan- cent, for cash,
American Ball dis 55 Butts - Cast Fast Joint, Narrow dis 408 to 5 Cast Loose Joint, Narrow dis 408 to 5 Cast Loose Joint, Narrow dis 508 to 5 Broad dis 508 to 5 Acorn, Loose Pin dis 42 to 5 Mayer's Loose Joint dis 52 to 5 Wrought Loose Joint dis 52 to 5 Table Hinges and Back Flaps dis 408 to 5 Narrow Fast dis 408 to 5 Loose Joint dis 45 to 5 Catter Hatts dis 45 to 5 Cast Loose Joint	For flu
Acorn. Loose Fin dis 4/4/10 % Jap'd dis 6/4/10 % Mayer's Loose Joint dis 5/4/10 %	on card
Wrought Loose Pin	burgh Tr
Blind Butta-	136 to 4 by 36 to 434 to 6 by 36 to 134 to 6 by 134 to 134 by 3 and 136 by 3 36, 36 and 36 by
Parker dis 70 S	and 1% by %
Huffer's	t to 136
Chajus.—German Halter and Coll. list December 31. 1857	t to 176 2 to 256 284 to 314 356 to 4 414 to 5 24 to 34
Galvanued Pump.	454 to 5
	% to %
Casters.—Bed (new list July 1, 1880,)dis 35&10 %	% to 1% Inch
Coffee Milis.—Box and Skie, new list Jan. 1,	% to 116 by 5-16
Cutiery.—Walden Pocket	76 Inch, Nos. 1
Brawing Knives. Harl Mfg. Co.'sdis 64210 \$ Adjustable Handledis 20 \$	nkto 6 by k
Fry Pans. Tinned	3% to 6 by % 1% to 3% by % 1 to 1% by % % to 5% by % % and % by %
No 9 1 2 3 4 5 6 8 9 co 10.00 FO 0 1 3 3 4 5 6 7 8	and % by %
	1% to 6 by No 1 to 1% by %
	% and 13-16 by
Finting Machines.	% and 11-16 by
Eagle - \$\{\) in. roll	15¢ to 6 by 16 156 to 6 by No 1 to 136 by 5c 2 to 136 by 5c 3 to 136 by 5c 34 and 13-16 by 36 and 13-16 by 36 and 1-16 by 36 and 9-16 by 36 and 9-16 by 36 and 9-16 by 36 and by No
Figuring Machines Eagle - 26 in roll	134 to 4, Nos. 13 134 to 2, Nos. 15
Favorite com. Fluter & Sad Iron V doz \$10.50 net	1 to 2, No. 20, 1 to 2, No. 21,
Pandles. Boynton's Pat. Saw Handles35c per pair net.	15-16, 1, and 154
Hatchets. Yerkes & Plumb, new listdis 30 S	15-16, 1, and 156 15-16, 1, and 156
Hinges.	16, NOS. 13, 148 16, NOS. 16, 17 8 36, NOS. 19 and
Rorse Nails. Nos. 5 6 7 8 9 30 Ausable 901ed & P't'd and	36, NO. 22 13-16, NOS. 13, 1
Blued and Pointed, 31 28 2 24 24 25 Globe	13-16, Nos. 16, 1 13-16, Nos. 19 81 13-16, No 21
" Pottshed & Pointed 24 22 21 25 10 Porter, all sizes	13-10, No. 22 %, Nos. 13, 14 a %, Nos. 16, 17 a
Globe, 205 Locks and B nobs.	M, Nos. 19 and 36, No. 21 M, No. 22
Gavlord Cabinet dis 2:22 5 cash American Padiocks dis 3; &2 5 cash	11-16, Nos. 13, 1, 11-16, Nos. 16, 1; 11-16, Nos. 10 at
e dos. 85.00 5.50 6.50 7.50 8.50 10.20 12.50 dis 60 %	11-16, No. 21 11-16, No. 32
NO 64 65 66 dia 60 %	56, Nos. 10, 17 a 56, Nos. 19 and No. 21
square Candle and Oil	No. 23 No. 23
Lawn Mewers, Pennsylvania	9-16, Nos. 16, 17 9-16, Nos. 19 an
Lawn and Garden Pumps. Rohand PatentList \$5.00 dis 10 S	9 16. No. 33
Mattocks. Long and Short Cutternew list	Nos. 16 Nos. 16 Nos. 16
Nolasses Gates. Enterprise Mfz Co 's Measuring Faucets dis 25 %	10 No. 28.
Lincoin's dia 50&10 S Landers, Frary & Clark's Petroleumdis 20&10 S	Ties. 1-100 per lb. lighter than th
Cork Lined "	to specified les
Voodruff	o to 11 lbs, per 8 lbs, and less Less than lbs.
Hale's	Less than lbs.
Finnes.—Ohio Tool Codis 25 % Sciotodis 25 % Scioto	No. 9 and hear
Auburndis 20 £ New York Tool Codis 26 £ Baileydis 20&10 £	Piow Slabs Wings
Piame irons.—Ono rooi Co	No. 10 to 14
Enterprise Mr. Co 's Measuring Faucets die act City Schrift Lincoln's die yoktros Lincoln's die yoktros Lincoln's die yoktros .	No. 15 to 17 No. 18 to 21 No. 22 to 24 No. 25 & 26
Ruies.—Stanley Boxwood	No. 27 No. 28 All shee s ho
# dox\$14.50 17.75 #1 00 #6.50 31 00 35.50 Lbs	not less than a
9 dox\$3.00 10.35 13.75 15.60 16.75 39.50 Lba 90 100 140 200 350 300 800 800 800 800 800 800 800 800 80	set quality (A Galvanized (Nos. 14 to 20 Nos. 21 to 24 Nos. 25 and 26.
Steel and Irondis & 5; full case, dis 50210 5 Try Squazes, Stanley	Nos. 25 and 26. Current disc
Try squases, Stanley. dis cost of Disstor's Try Squares dis cos seythers, Golden Clipper, Damascus Blade, Soxed and Sharpened. Story Sox Des Clipper No. 10, Bronsed Blade, Boxed and Sharpened. Starpened and Sharpened dis cost of Clipper No. 5, Painted Red, Boxed and Sharpened dispersion of Clipper No. 5, Painted Red, Boxed and Red,	1% by % by en
Sharpened Painted Red, Boxed and Sharpened Painted Red, Boxed and Sharpened	236, 3, 336 and 132, 136 2 and 2 134 inch
Saws, Disston's hand, Panel and Rip. dis 20 S Disston's Circular dis 20 S	by tinch, f
Saws.—Diston's nand, rance and stip. dis 20 5 Disson's Circular. Cross-Cut No. 2, Plain Toots. dis 40 5 Cross-Cut No. 2, Plain Toots. dis 40 6 Patent Toots. dis 40 6 Champion Toots. dis 40 6 Eoynton's Lightning Cross Cut, new list. dis 20 5 "Rillot Webs. 20 linch." dis 20 5 "Rillot Webs. 20 linch." dis 20 5	8 lbs. to the y
Shovels and Spades	Pigt Ra
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	Plateddis 40% % German Sliverdis 30 & 10 & Britannis, Boardman'sdis 50 %	\$ 5 km 7 3 5 km
	Parker's dis 50 s	0 50
	Bhow Nalls—4-8, 5%c.: 334-8, 7c # b	579
	Traps Genuine Oneida—Newhouse dis 30 % Im. Oneida—Newhouse list, first qual. dis <65 % Visra. Solid Box Trenton new list dis 45 % Wrenches. —Agricultural dis 60 % Coes' Genuine dis 40 % to 6 % dis 40 %	2
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	Gaivanized No. 7 to 18. Market List, dis 42% to 44.5 Wringers, Poerless No. 216. Universal, No. 226. Novelty, No. 10.	I STORY
	PITTSBURGH.	M 40 100 100 100 100 100 100 100 100 100
	Dierchast Iron. TERMS Note or acceptance at 60 days, with current rate of exchange on New York, or a discount of 2 per cent, for eash, if remitted within 10 days from date of	90
	For fluctuations and discounts	1
-	on card rates see weekly Pitts- burgh Trade Report. The following are card rates.	1
	Flat Bar. 136 to 4 by 36 to 1 inch	1
	114 to 4 by % to 1	200
	1	1 1 1 1 1 1 1
	74 to 14 Inch	1
	Wagon Box Iron, 74 Inch, Nos. 13 and 14	
	13 and 12 38c 38c 38c 4.c 4.c 4.c 4.c 4.c 4.c 4.c 4.c 4.c 4.	1
	134 to 334 by 34 and 5.15 2.70 1 to 136 by 34 and 5.16 2.70 4 to 34 by 34 and 5.16 2.80 34 and 34 by 34 and 5.16 3.20	-
	156 to 6 by 16 to 3-16	
-	to 1% by Nos. 11 and 12. \$\frac{1}{2}\text{ and 13-16 by \{ \text{ by 0-16.} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	1
	1¼ to 4, Nos. 13, 14 and 16	1
	15-16, 1, and 156, Nos. 13, 14 and 15. 3.60 15-16, 1, and 15, Nos. 16, 17 and 18. 3.60 15-16, 1, and 15, Nos. 19 and 20. 3.60 15-16, 1, and 15, No. 19 and 20. 3.70	1
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	\$\frac{4}{5}\$, NO. 22. 4-70 \$\frac{4}{5}\$\$ NO. 23. 4-50 \$\frac{5}{5}\$\$ NO. 23. 4-50 \$\frac{5}{5}\$\$ No. 23. 4-30 \$\frac{1}{5}\$\$ 1, 4 and 15. 4-50 \$\frac{1}{5}\$\$ (No. 15, 17 and 18. 4-70 \$\frac{1}{5}\$\$ (No. 15, 17 and 18. 4-70 \$\frac{1}{5}\$\$ (No. 15, 17 and 18. 4-70 \$\frac{1}{5}\$\$ (No. 15, 17 and 18. 4-70)	1
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	1:100 per lb. extra will be charged for each gauge lighter than the lightest indicated, 1:100 per lb. extra will be charged for cutting floops to specified lengths. Barrel Hoops. 9 to 11 lbs, per set of 6 hoops.	
-	8 lbs. and iess than 9 lbs. per set of 6 hoops. 3.6c Less than lbs. per set of 6 hoops. 3.8c Extras for Cutting to Length all Preceding Iron. All Iron, including Tire. 1.100	
	No. 9 and heavier	
-	No. 18 to 21	1
	200 7,50	н
	All shee-s bo. is and lighter, over 30 inches wide, not less than 2.100 extra. All shee-s bo. is and lighter, over 30 inches wide, not less than 2.100 extra. Wood's Futent Plantahed Sheet. 18t quality (A). 1.15\(\) 2 2 quality (B). 0\(\) (Gatenine'd C. H. B.—(Charcoal Hammered Bluouns). Nos. 14 to 20. 120 No. 27 140 No. 21 150	
	246, 2, 336 and neh. 3.50 216, 2, 336 and neh. 3.50 136, 137 2 and 236 lineh 3.50 136 lineh 3.50	-
	196 by 94 11.50, for Piow Handles 5.50 196 by 94 1.50 1.50 196 by 94 1.50 1.50 196 by 94 1.50 197 198 19	
	Splice Joints for 12, 16 and 20-lb. Rail, 400 each; 25 and 30 lb. kali, 500 each; 40 lb., bor each. 35 by % and 36 hylkes for 20 and 28-lb. Rail. 4460 25 and 30 % "12 and 16-lb." 450 25 by 5 10 "8 450 kall. 50 kby 5 lb. "8 450 kby 5 lb. "12 and 16-lb." 550 kby 5 lb. "12 and 1	
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OF LEASE	Juniata Mail Rods	1

Г	HE IRON AGE	C
1	Natio.	ſ
	See Pittsburgh Trade Report. Best Quality Refined Cast Steel.	
	Best Quality Refined Cast Steel. Square, Flat, Octagon and Round. % to a Inches, inclusive. 12c 5-16 and 2½ to 3 Inches. 15c 4 and 3½ to 4 14c 4 and 3½ to 4 14c	
	5-16 and 2½ to 3 luches	
	\(\frac{1}{4}\) and \(\frac{3}{2}\) (to 4 \\ 7-32\) and \(\frac{1}{2}\) (to 5 \\ 3-16\) and \(\frac{1}{2}\) (to 5 \\ 5-32\) (noch) \(\frac{1}{2}\) (220	-
	Oil Weil Steel Forgings	
	Machinery Steel. Crucible, Ordinary Sizes, % to 2 inch Crucible, Open Hearth	
	Ordinary Sizes, % to 2 inch Round 8 e	١
	Round 8 e 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	
6	7-32 inch	
	Square, Flat and Octagon, Mc extra throughout the list.	
	Cut to specified lengths, 1/4c extra. Hammer Cast Steel.	
	2 inches and under	
200	Best. 2d Qual. 3d Qual. Open Hearth	
	To 21 gauge, 12 % 110 9c 7%c 1c. extra for each additional gauge, Cut to multiples or specified lengths, %c. extra.	
	Miscellaneous Cast Steel.	
6	Auger and Auger Bit. 84cc Axle Steel, Auger and Auger Bit. 84cc Axle Steel for carriages and wagons. 84cc Frog Points and Plates 10cc 15 Side Bars. 10cc 19 Clek, Digin (hanmered). 54cc	
1		-
	Skate Steel	
	and Mattock beveled (rolled) 8%c Skate Steel 98 98 Table Cutlery, plain. 98 Table Cutlery, beveled 97 Pike and Can't Hook 98 Coal and Granite Wedge 81 Roller 81 See	Ì
	Coar and Granite Wedge	-
	Tran Spring Steel	
	Coal and Granite Wedge. 8-84c Roller. 8-84c Spindle, subject to Machinery classification. 8-9c Tran Spring Steel Forzed Crank Pins and Lathe Spindles. 10c Piston Rods, plain. 10c Slide Bars, plain. 10c Graged to shapes. 10c Crucible, Open Bearth or Bessemer. Roller, Fire Box and Flue Sheets. 10c	
2 1 2	Since bars, plain	
	Boller Fire-Box and Flue Sheets, not less than 3-16	
3	Boiler Fire Box and Fine Sheets 0 160	
	Circulars and semi-circulars when out-	
	Lower Stank Stand	
0 0	Square. Round. Half Round and Flat Bastard, 8-	ı
e	Square. Round. Half Round and Flat Bastard. Sinch and over. SMII Saw, 5-inch and over. Segaraper, 3-5, 3-6, 3-6, 3-6, 3-6, 3-6, 3-6, 3-6, 3-6	
e	Taper. 3/4-inch and over. 5/5c Horse and Shoe Rasp. 8/5c 8/5c Spring Cast Steel. 6/4c 8/5c Spiral and Taper, cut to lengths. 6/4c 6/4c	1
0 0		
0	12½ and over	
0	W and %x5 and 3-32 and 12 g	-
00	Agricultural Implement Cast Steel. Fork and Eake, Crueible	-
000	Fork and Rake, Crucible	1
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e		
e	Spring spiral and taper, cut to lengths. See Tire, 16 thick and above See Toe Calk 450 See The Calk 450 See	1
e e	Flow	-
e	Sterkh Shoe	-
e	Toe Calk	1
e	Rolling Coulter Blanks, cut and punched	-
e e	rounny Couter manus, cut and punched	-
C C	If remitted within 30 days.	
e	Furnace Floor and Straightening Flates	
0 0	Guide Plates	
0	Pipe Mill Castings. 4 0	1
0	Rolling Mill Castings under to lbs	1
e	Pulleys up to 30 inches. smail. 4460	
e e	If remitted within 30 days. Furnace Floor and Straightening Plates. 3%c Housings and Castings and Straightening Plates. 3%c Guide Plates. 3%c Spindles and coupling boxes. 3%c Spindles and Calinos. large size 3%c Spindles and Falianes. 3%c Spindles and Falianes. 3%c Pipe Mill Castings size. 4 c Pipe Mill Castings under 50 lbs. 5 Spin and Bevel, Wheels, large. 4 c Spin Castings, light. 4 c Spin Castings, light. 3%c Chilled Rolls, 4 c Chilled Rolls,	-
e	Chilled Rolls,	1
e	6 to 7 in. diarm. 7 to 2 in. long	1
0 0	After Oct. 1, 1881, no discounts with be made at the	1
e	Strictly Pure White and Red Lend.	1
e	b Tin Pails, 4c. # b over keg price; 1256 b Tin	1
e	3c. per b over keg price. Dry White Lead in barrels	1
0	tlement as heretofore, prices quoted being net. White and it de Lend. Strictly Pure White Lend in 10.1 in kega, 7c.; in 25 B Tin Fails, 3c.; W b over keg price; 1356 B Tin Palis, 1c W b over keg price, assorted, 1 to 5 B cans, 3c. per B over keg price. Dry White Lend in harrels. Red Lend, very brilliant, in kegs, 7c; in barrels old Ettharke (Fotter's Lend) 7c; Freights equalized with all points where White Lead is made.	-
000	Lead is made. Terms: Note at sixty days, or if paid within a days.	1
ccc	Terms: Note at sixty days, or if paid within 14 days from date of invoice a discount of 21/2 per cent. will be allowed, but not otherwise.	-
0	Window Class	1

An additional to per cent, will be charged for all plass more than 40 inches wide. All sizes above 53 uches in length and not making more than 51 united inches, will be charged in the 84 united inches bracket. GARRY IRON ROOFING CO.,

Iron Roofing and Crimped Siding, IRON ORE PAINT AND CEMENT. 79 & 81 Columbus Street, CLEVELAND, OHIO. Send for circulars and price lists, No 15.

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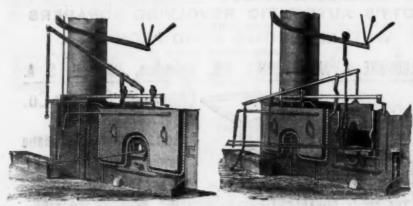
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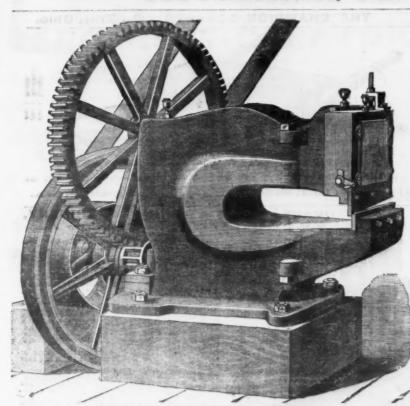


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•	4
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	Dividers.—Cook's
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	Dog Muzzles, -Automatic
	Gem Coil, new list
	Door Stops.—Thurston'sdis 50 %
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	Drills.—Morse Bitt Stock
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Hammers.—Maydole'sdls 15 9 Hartford Hammer Codls 20 9
Hangers & Rollers, Anti-Friction
Hand Screws,dis to
Hatchets.—C. F. Dowse new listdis 33½ Underhilldis 25
Hay K nivea Lightning # dox.\$18.00, net Fisher's Patent # dox \$1.00 Fisher's Patent # dox \$1.00 Hingea Strap and T (new list). dis 40% 00% 10% 10% 10% 10% 10% 10% 10% 10% 1
HoesW. C. & Co.'sdis 50 %
Hooks and Staples Brewers' (new list) dis 60
Horse Nails No. 6 7 8 9 National Finished 23 21 20 19dis 25 2 Putnam Pointed 28 25 25 24
Horse Nails.—Bridgewater
Ice Cream Freezers Packer's, new list dis to 4.
K nebs" Norwalk." New list
Lanterns.—Guarded, No. 99. \$\psi\$ dos \$7.50 Tubulars, No. 0. \$\psi\$ dos \$6.00 Railroad, Oli, No. 43. \$\psi\$ dos 9.00 Triangular. \$\psi\$ dos 4.00 Hurricane. \$\dis 20^2\$
Lawn MowersThe "Daisy."
12 in. cuteach. \$8.00
14 in. cut
16 in. cuteach, 9.00

	The state of the s
	Horse Nails.—Bridgewater
	Ice Cream Freezers Packer's, new list, dis :
	K nebs. —"Norwalk." New list dis 45@1 Silver Glass
	Lanterns.—Guarded, No. 99. # doz 87 Tubulars, No. 0. # doz 8 Railroad, Oil, No. 63 # doz 9 Triangular # doz 4 Hurricane dis 2
-	Lawn Mowers The "Daisy."
	12 in. cut
	Lead,—Sheet
	Lecks.—Norwalk Genuine Bronze Goodsdis 25 @ 10 Eagle Cabinet
I	Manure Forks,-W. C. & Codis so
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ı	Measuring TapesEddy'sdis 20
۱	Ment Cutters.—Miles' Challenge dis 30 Hale's, (new list) dis 40 & 10 American dis 25
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ı	Nails # keg, 3
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	Welch & Griffith, Extra & doz \$8.
П	Welch & Griffith, No. 2
Н	Scales, -rairbanksdis 2
H	Screws, -Aiken's Flat-Head Ironnew list, dis 30
И	American Flat-Head Ironnew list, dis 30
ı	American Flat-Head Brassnew list, dis 30
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ı	American Round-Head Ironnew list, dis 25
4	Grillev Round Head Nickel-Plated, Common.dis
1	ScythesClippers, in boxes # dox so
1	ShavesKimball's inch 73
J	Watronsdis 1
1	Shears,-American shear Co., new tistdis 70
1	Shot.—Tatham's
1	ShovelsO. Ames, new listdis 19
1	O Ames other brands, new list dis 15

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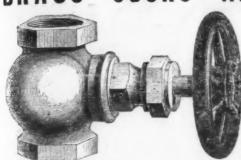
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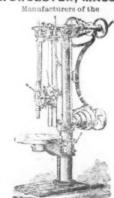
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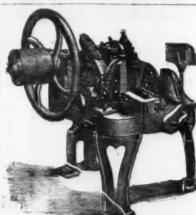
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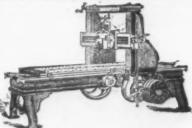


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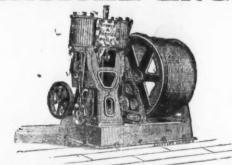
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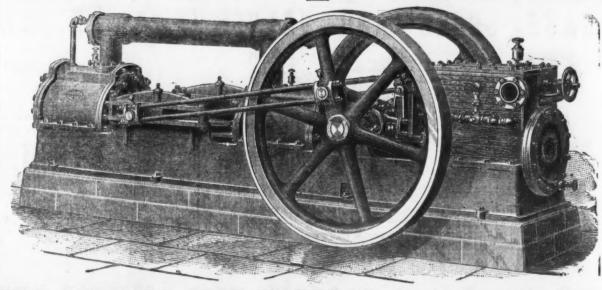
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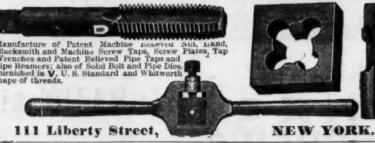
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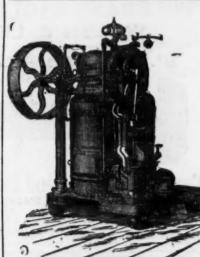


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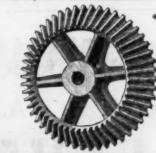
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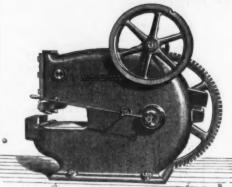
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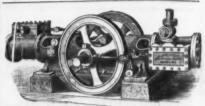
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